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ABSTRACT

The primary objective of the study was to identify the professional inservice education needs of agriculture instructors in postsecondary area vocational schools, and determine if differences exist among instructors and adminstrative personnel regarding perceived instructor inservice needs. The population consisted of all of the Iowa community college and vocational-technical school agriculture instructors and their department heads: (1) Full-time instructors in either agricultural production, agriculture supply and service, agricultural power and machinery mechanics, or horticulture; (2) area school instructor-program coordinators; and (3) department heads with primary responsibility for administering and staffing agricultural programs. Data were collected by administering a survey, which included demographic data and a list of 105 professional competencies arranged by competency groups, allowing the determination of inservice need for each competency and each group of competencies, and also allowing comparisons among participants grouped by their staff title and by their agricultural program assigned. In this description of the study, analyses of data (primarily in tabular form) are presented under the following headings: Characteristics of postsecondary areas vocational school instructors and department heads, importance ratings of professional education competencies needed, and of competencies for inclusion in an inservice education program, inservice need indicator of professional education competencies, and ratings of methods for delivering professional inservice education. (SH)

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PROFESSIONAL EDUCATION IN-SERVICE NEEDS OF AGRICULTURE INSTRUCTORS IN IOWA POSTSECONDARY AREA VOCATIONAL SCHOOLS

by

BEST COPY AVAILABLE

Bennie L. Byler
Thomas J. Lindahl

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INTRODUCTION

Vocational and technical education has been an important segment of the curriculum of many Iowa secondary schools since the early 1900's. However, the establishment and growth of vocational programs in postsecondary area schools or community colleges has occurred primarily during the past fifteen years. In 1965, a statewide system of postsecondary educational institutions was legislated (State of Iowa Department of Public Instruction, 1975). Currently, there are fifteen postsecondary area vocational schools operating in Iowa. Thirteen of these have been organized as area community colleges and two have been organized as area vocational schools. Vocational education is a component of the curriculum in all fifteen institutions. The total vocational education program enrollment in Iowa area schools increased from 2,150 in 1966-67 to 18,348 in 1975-76 (State of Iowa Department of Public Instruction, 1975).

In recent years there has also ~~been~~ a rapidly accelerating growth of agricultural programs in the postsecondary area schools of Iowa. This increased program expansion has had a tremendous impact on the need for well-trained instructors who possess the necessary agriculture and professional education competencies.

Instructors of agriculture at postsecondary area vocational schools are entering the profession with an increasingly varied background of professional and occupational training and experiences. A portion of these instructors are entering the profession with some prior training in the professional education competencies in the areas of methods of teaching, program planning, occupational experience programs, curriculum development, and evaluation. However, an increasing number are entering the teaching profession with considerable expertise in their technical subject matter specialty (i.e. animal science, agronomy, agricultural supply and service, etc.) with little or no formal training in the pedagogical skills needed to teach this subject matter.

Statement of the Problem

Providing in-service education for vocational and technical education instructors has been a major concern of federal and state agencies for many years. However, the professional education competencies needed and possessed by agriculture instructors of Iowa postsecondary area vocational schools are relatively unknown to the teacher educators, supervisors and administrators who must assume responsibility for developing in-service education programs that will enhance these instructors' teaching performance.

Area school agriculture programs in Iowa have grown rapidly during the past few years with enrollments increasing from 825 in 1965 to 1,815 in the 1975-76 school year (State of Iowa Department of Public Instruction, 1975). This expansion in enrollment has created a need for new as well as replacement instructors. At the present time there are approximately 110 agricultural teaching personnel in these programs. Many of these instructors are less than permanently certified to teach and have a need for professional in-service education. Consequently, it is imperative that efforts be directed toward identifying their professional in-service education needs and then providing programs that will assist them in becoming competent in the areas for which they need assistance.

Teacher educators in colleges and universities and state supervisory personnel have been slow to respond to the professional in-service education needs of Iowa area school instructors in agriculture. This may have been due to the lack of information regarding the in-service education needs of these individuals. In Iowa, the expansion of these programs and increased enrollments in the agricultural education curriculum necessitates programmatic development of professional and technical in-service education by teacher education institutions and state department personnel.

The primary purpose of this study was to identify the professional education competencies needed to perform as postsecondary instructors of agriculture, and determine their perceived in-service education needs of the professional education competencies identified. The results of this study should be beneficial to teacher educators and any agency responsible for providing in-service education to postsecondary agriculture instructors. More relevant in-service education programs may be planned by determining the importance level and need for in-service education these instructors and department administrators attach to the identified professional education competencies.

Objectives of Study

Agricultural program enrollment in Iowa postsecondary area vocational schools has increased rapidly during the past few years. This accelerated enrollment has expedited the need for well-qualified and competent instructors of agriculture.

The primary objective of this study was to identify the professional in-service education needs of postsecondary agriculture instructors in area vocational schools. The specific objectives of the study were to determine:

1. characteristics of postsecondary area vocational school instructors and department heads.
2. the importance ratings of professional education competencies needed to perform as an area school instructor of agriculture.
3. the importance ratings of professional education competencies to be included in an in-service education program for area school instructors of agriculture.
4. the in-service need indicator of professional education competencies.
5. the ratings of methods for delivering professional in-service education.
6. if there are differences in the importance ratings of professional education competencies needed to perform as an area school instructor as perceived among participants grouped by their staff title.
7. if there are differences in the importance ratings of professional education competencies needed to perform as an area school instructor as perceived by participants grouped by their agricultural program area assigned.
8. if there are differences in the importance ratings of professional education competencies to be included in an in-service education program as perceived among participants grouped by

their staff title.

9. if there are differences in the importance ratings of professional education competencies to be included in an in-service education program as perceived among participants grouped by their agricultural program area assigned.
10. if there are differences in the in-service need indicator of professional education competencies as perceived by participants grouped by their staff title.
11. if there are differences in the in-service need indicator of professional education competencies as perceived by participants grouped by their agricultural program area assigned.
12. if there are differences in the ratings of methods for delivering professional in-service education as perceived by participants grouped by their staff title.
13. if there are differences in the ratings of methods for delivering professional in-service education as perceived by participants grouped by their agricultural program area assigned.

REVIEW OF LITERATURE AND RELATED RESEARCH

Vocational schools in Iowa were authorized by Senate File 550 enacted by the 61st General Assembly in 1965 (State of Iowa Department of Public Instruction, 1975). At the current time there are fifteen area vocational schools in Iowa offering programs in agriculture. These programs have experienced rapid growth during the past few years. Today, agricultural programs in these area vocational schools are currently expanding at a slower pace than in the first decade following their inception. However, agricultural staff will continue to need replacements and additions as these changes are met.

Copa and Korpl (1974) completed a six-year study projecting demands for new teachers in Minnesota from 1972-73 to 1978-79. It was concluded that a need would exist for an average of two new postsecondary instructors and six adult instructors per year.

The state of Iowa has 50 agricultural programs and approximately 110 agriculture instructors and department heads (State of Iowa Department of Public Instruction, 1976). This number would suggest an annual replacement need due to turnover, and many of these replacement instructors may not have completed a pre-service professional education program. The study by Copa and Korpl (1974) indicated that during the five-year period prior to 1972, 14 of the 23 new instructors in postsecondary agricultural programs came from non-technical teaching backgrounds.

During the years of rapid expansion in agricultural programs at the postsecondary area vocational level, staff positions were filled with personnel who possessed varied background. Studies (Shoemaker, 1973; Copa and Bear, 1972) indicate that many of these positions have been filled by former vocational agriculture instructors from secondary schools. However, a large number of the positions were filled with individuals having no formal professional education training. A rather large number of these had what appeared to be only minimal occupational experience (Copa and Bear, 1972). As one observes these instructor characteristics, questions arise as to whether similar pre-service and in-service programs are appropriate for both secondary and postsecondary agriculture instructors.

Feck (1971) reported that many of the postsecondary technical agriculture instructors in his sample from across the United States held a bachelor's degree in their specialty area of agriculture for which they were teaching. Many of them possessed a master's degree in agricultural education.

There appears to be a consensus among writers of literature and researchers (Eble, 1971; Holloway, 1970; Turner, 1970) as to some of the desirable qualities of good teaching. These studies may be summarized as follows: "The quality teacher has ideas to think and can make these ideas known. The ideas need to be supported with good demonstrations and dramatizations. The qualities of an effective instructor include an openness to students and a fairness of judgment" (Jenkins, 1973). Good teaching is judged by its outcomes (Turner, 1970; Weidenaar, 1972). These studies indicate that all learning requires motivation and consideration of individual needs (Jenkins, 1973). Professional competencies are suggested as important.

George and George (1972) suggest that in public junior college business education "previous attempts to develop criteria for hiring . . . qualified vocational teachers have been haphazard at best. . . ." In their conclusions they suggest ". . . greater attention on personal/ social characteristics than any other," as the criteria used in the past. Encouragement of a study of the effect of knowledge and skills obtained in related business work experience on teacher effectiveness is suggested. They recommend a study of business teachers at the junior college level to determine if teachers' perceptions of factors used in selection are in agreement with the responses of their chairman. A comparison of instructors at the community college level found agreement that a college degree was not essential to teach. Agreement was also found regarding what subject matter knowledge was essential as well as the rankings given specific problems involved in teaching. Significant differences were found in the areas of testing and grading, lesson planning, accounting for individual differences, and organizing class work. These characteristics were cited previously as necessary for qualified teaching. This study implies differences in important teacher competency areas and supports the need for a study of agricultural educators comparing instructors and department chairmen in determining in-service education needs.

What do most state certifying agencies require for qualifications of technical teachers? Brantner (1975) states: "The requirement of actual occupational employment for varying lengths of time is common to all states as part of the requirements for teacher certification." Most states require some professional education in addition to the occupational experience. Present Iowa certification standards for postsecondary teachers in agriculture (Iowa Department of Public Instruction, 1976b) require a minimum of the preparation outlined for secondary vocational agriculture teachers plus two years (4,000 hours) of successful occupational experience in the specialization of approval. An alternative is three years (6,000 hours) of successful occupational experience completed after high school graduation in the subject matter area to be taught.

In recent years considerable attention has been given to the development of compentecy-based teacher education programs (Burke, 1972; Contrell, 1971a; Cotrell, 1971b; Cotrell, 1972; Daniel, 1971; Ely, 1973; Elam, 1971). The competencies to be acquired are identified and are explicitly known to the learner and the teacher educator and are defined in terms of the instructor's professional role (Ely, 1973).

The competency-based teacher education movement encompasses all areas of education (Cotrell, 1971a) and prominently includes occupational teacher education (Ely, 1973; Sybouts, 1973).

According to Elam (1971) there is general consensus regarding the characteristics of a performance-based/competency-based teacher education program:

1. Teaching competencies to be demonstrated are role-derived, specified in behavioral terms, and made public.
2. Assessment criteria are competency-based, specify mastery levels, and made public.
3. Assessment requires performance as prime evidence and takes student knowledge into account.
4. The student's rate of progress depends on demonstrated

competency.

5. Instructional program facilities development and evaluation of specific competencies.

Competency-based education has become important in all levels of education. There has been some movement towards professional competency-based pre-service agricultural education.

In 1970, participants at a Regional Research Conference in agricultural education at the University of Minnesota recommended a research project be conducted to determine the competencies performed by junior and community college instructors in agricultural programs (Persons, 1970). The competency areas were to include administration, advising and counseling, student placement, teaching methods, subject matter, and professional. These competencies were to be considered as a rationale in designing pre-service education programs for instructors in junior and community colleges.

In recent years there have been several studies completed to identify the professional competencies performed in technical programs at the postsecondary level (Lindahl, 1971; Miller, 1971; Crawford, 1969; Andreyka, 1969). These studies tend to agree that regardless of program area, state, or college, vocational-technical instructors have a need for some core of performance of the professional education competencies. Generally, these studies observe differences as to the number of competencies considered necessary, and to what specific competencies are required. The research by Lindahl (1971) and Miller (1971) indicate the possibility of generating factors containing clusters of common professional education competencies. Instructional management (teaching and guidance strategies) and the teaching learning process require the highest level of proficiency in the performance of their job as vocational technical teachers.

Erpelding (1972) conducted a study of vocational-technical education needs in six occupational areas using 45 professional education competencies which concentrated in the area of teaching or instructional management. His findings were similar to the earlier studies cited and recommended that a study should be conducted to determine whether unique elements subordinate to the 45 professional education competencies identified in this study existed for any of the six occupational areas. Agriculture was one of the six occupational areas included in his research.

Feck (1971) conducted a study of professional competency needs of teachers of agriculture in two-year technical institutes or colleges in the United States, and compared responses of 160 technical teachers to 69 administrators of agricultural technical programs and 32 state supervisors of vocational agriculture. He observed the following:

1. Most of the professional education competencies were perceived as above average in importance as a qualification for being a successful teacher.
2. Competencies in planning for instruction, teaching, public and human relations were most frequently rated highest in importance.
3. Full-time teachers of agriculture as well as those with pedagogical preparation perceived the importance of and their degree of competence in professional education competencies

higher than those without these experiences and background.

4. Teachers stated their degree of competence lower than they rated the importance of most professional education competencies.

Cotrell (1971a; 1971b; 1972) has completed considerable research in identifying professional competencies and developing a model curricula for vocational and technical education based upon performance requirements for teachers. His study has served as the basis for many research studies relating to professional education competency studies.

Moore (1975) concluded from his research of professional education competency needs of three groups of vocational agriculture teachers in Ohio, that "more background information is needed by teacher educators and supervisors in agricultural education for planning and conducting more relevant pre-service and in-service teacher education programs for the following secondary vocational agricultural teachers: four-year college agricultural education majors, four-year college technical agriculture majors, and non-college graduates recruited from business and industry."

The expansion of program offerings in postsecondary vocational schools has created an awareness of the role in-service education could play in upgrading the quality of instruction in teacher education programs (Ely, 1973; Finch, 1969; Harris, 1969; Scarborough, 1966). According to Barlow (1971) the emphasis on in-service education has been on the upswing for the last decade.

Most professional educators agree that it is impossible for a pre-service program to adequately prepare instructors for the entire professional career (Annis, 1971; Bail and Cardozier, 1967; Edmonds, 1966;

Love and Stevens, 1965). It is generally agreed that pre-service education must be followed by in-service education which extends throughout the professional career of the instructor.

Annis (1971) reports that the best pre-service teacher education programs cannot adequately prepare its graduates for all the teaching situations they will encounter.

Edmonds (1966) suggests that the pre-service education for teachers represents only a minor fraction of the time a person must spend in learning to become an effective teacher. Pre-service education must be followed by in-service education throughout the professional career of the teacher.

According to Bail and Cardozier (1967) in-service education is necessary because it is impossible to prepare an instructor adequately in the time available for pre-service education. They reported that instructors need experience before they are fully aware of their instructional needs, and the agricultural instructor's job is constantly changing.

In summary, the review of literature revealed a need for identifying the professional in-service education needs of agriculture instructors in Iowa Area Vocational Schools. A viable procedure for identifying these needs appears to be that of identifying the professional competencies needed by these instructors, and their perceived in-service need for each competency identified. A profile of competencies would be beneficial for developing and implementing an in-service education program for postsecondary area vocational school instructors of agriculture.

EXECUTION OF STUDY

The primary objective of this study was to identify the professional in-service eduction needs of agriculture instructors in postsecondary area vocational schools, and determine if differences exist among instructors and administrative personnel regarding perceived instructor in-service needs.

Design

The design for this research was basically a descriptive and comparative ex post facto study of postsecondary agriculture instructors and their department heads in Iowa postsecondary area vocational schools.

Population

The population for this study consisted of all the Iowa community college and vocational-technical school agriculture instructors and their department heads. The population was identified through personal contact with each area school administrator in charge of staffing agriculture programs for the 1976-77 school year. Each administrator developed a complete list of his staff to determine the exact population. A preliminary list of this staff was obtained from the state supervisor of postsecondary agriculture programs in the Iowa State Department of Public Instruction.

Sample

A sample of 100 percent of the population was obtained from identified agriculture instructors and department heads. The sample consisted of the following:

1. Full-time agriculture instructors in Iowa postsecondary area vocational schools with primary responsibilities in one of the following program areas: agricultural production, agricultural supply and service, agricultural power and machinery mechanics, and horticulture.
2. Area school instructors - program coordinators.
3. Department heads with primary responsibility for administering and staffing agricultural programs in Iowa area schools.

Instrumentation

A review of the literature was conducted to assist in determining demographic data needed for this study and to determine the professional competencies performed by postsecondary vocational instructors.

Upon completion of the review of literature a list of professional competencies was compiled and grouped into the following clusters: instructional activities; program organization; coordination on-the-job; area school and community relations; student activities; professional role; guidance, placement and follow-up; and job management.

The tentative list of competencies was subjected to a review panel consisting of a postsecondary agriculture instructor, a head teacher educator in agriculture, and a teacher educator with tehcnical agriculture experience. They were asked to review the list and make suggestions for revision. Upon recommendations from the review panel, appropriate revisions were made and incorporated into the instrument.

Directions to be followed for completing the demographic data questionnaire and the format to be used for rating each competency was field tested by personal interview with a group of postsecondary agriculture instructors in a neighboring state having postsecondary area school agriculture programs similar to Iowa. The demographic data questionnaire asked each respondent to provide the information about his personal background and an indication of the characteristic qualifications needed for a person replacing him with his present responsibilities. Department heads completed the same questionnaire as to the characteristics necessary for a person to be qualified to fill a vacancy in the various agricultural programs.

In completing the competency survey, the certainty method was used in developing the given response framework (Warren et al., 1976). Respondents were asked whether they agreed or disagreed that the competency was needed to perform as an area school instructor of agriculture. The respondent then indicated on a scale from 1 to 5 the degree of certainty with which he agreed or disagreed. If completely undecided, the respondent circled both agreed and disagreed but no certainty number. The respondents were also asked to rate the importance of each competency for possible inclusion in an in-service education program.

Upon completion of the field testing a final copy of the survey instrument was developed and copies to be used in the study were printed (see Appendix A).

The project staff scheduled a visit to each of the fifteen area vocational schools having agricultural programs. A time was arranged with each agriculture department head that would permit each program instructor and the department head to complete the instrument within the scheduled time period. An attempt was made to divide the state into areas to conserve time for gathering data and costs for administering the instrument.

During the visit to each area school, the survey instrument was administered to each agriculture instructor and department head. A common statement of introductory information and directions to assist in proper completion of the instrument was developed and read similarly to all participants of the state (see Appendix B).

Because of illness or other unavoidable reasons, it was necessary for some staff to be absent at the time the instrument was administered. Therefore, a copy of the direction statement and survey instrument was left with the department head and he was asked to provide these to the absent staff member within the week. This completed survey instrument was then returned by mail to the project staff. If the completed instrument was not received within seven days, a telephone call was made to the department head to encourage immediate completion of the instrument.

Survey instruments were checked for completeness at the time of administration or when they were received by mail for those participants not present.

Analysis of Data

Data from the instrument were tabulated and transferred to appropriate code sheets for processing. The data were analyzed using computer facilities at the Computation Center, Iowa State University, Ames, Iowa.

The computer programs used in analyzing the data were selected from a statistical program known as Statistical Package for the Social Sciences (Nie et al., 1976).

The data from the competency rating scale were transformed to a continuum and expressed as a rating scale with a numerical value from 1 to 11 with 1 the lowest and 11 the highest.

PRESENTATION AND ANALYSES OF DATA

The analyses of the data are presented and arranged in a manner which bring attention to the objectives formulated for this study. The data analyses and findings of the study are presented under the following headings:

1. Characteristics of postsecondary area vocational school instructors and department heads.
2. Importance ratings of professional education competencies needed.
3. Importance ratings of professional education competencies for inclusion in an in-service education program.
4. In-service need indicator of professional education competencies.
5. Ratings of methods for delivering professional in-service education.

The statistical analyses of the data consisted of the use of the chi-square distribution and analysis of variance using the F ratio. The Duncan procedure was used for multiple comparisons among group means (Ferguson, 1971).

Characteristics of Postsecondary Area Vocational School Instructors and Department Heads

One of the objectives of this study was to determine characteristics of agriculture instructors and department heads in Iowa postsecondary area vocational schools. Part I and Part II of the survey instrument contained items requesting responses that would describe their initial and present personal and employment characteristics.

Staff title

The participants were requested to indicate their current title on their staff. The frequencies and percentages of responses to this item by staff position are presented in Table 1.

Table 1. Number and percentage of participants by staff position

Group number	Group	Number	Percent
1	Area school instructors	71	65.1
2	Area school instructors - program coordinators	23	21.1
3	Area school department heads	15	13.8
	Total	109	100.0

Each of the 15 area schools included in this study reported that they had an individual with a staff title of Department Head or Chairman, or a very similar title and could be classified as such. A portion of the participants (21.1 percent) were instructors with some administrative responsibilities and had a staff title of Instructor - Program Coordinator.

Agricultural program assigned

Item number three of the survey asked participants to indicate the agricultural program for which they are assigned major responsibility. Agricultural programs included as response alternatives are as follows: Agricultural Production, Agricultural Supply and Service, Agricultural Power and Machinery Mechanics, and Horticulture. Table 2 reports the number and percentage of participants by program area.

Table 2. Number and percentage of participants by agricultural program assigned

Group number	Instructor group	Number	Percent
1	Agricultural production instructors	49	50.5
2	Agricultural supply and service instructors	17	17.5
3	Agricultural power and machinery mechanics instructors	18	18.6
4	Horticulture instructors	13	13.4
	Total	97	100.0

Of the 109 instructors and department heads participating, 97 indicated a specific agricultural program to which they were assigned major responsibility for over 50 percent of the time during the entire year. Some participants did not indicate an agricultural program assigned. Therefore, it may be assumed that these individuals were department heads or instructors with responsibilities that were less than 50 percent in a particular program area.

Current and initial employment characteristics

Table 3 presents the means, standard deviations and F ratios for current and initial employment characteristics for which analysis of variance was used to determine significant differences among participants grouped by their staff title. A significant difference in responses among the three groups were observed for the following characteristics.

1. Years taught in current position. Area school program

Table 3. Means, standard deviations and F ratios for current and initial employment characteristics among participants grouped by staff title

Current and initial employment characteristic	Group 1[a] Mean S.D.	Group 2[b] Mean S.D.	Group 3[c] Mean S.D.	Total Mean S.D.	F ratio
1. Participant's age	38.46 10.25	42.39 10.38	43.80 10.17	40.04 10.40	2.44
2. Years taught in current position	3.63 2.68	5.35 2.90	6.07 2.37	4.33 2.84	7.15** 2,3 > 1
3. Years secondary vo-ag teaching experience	1.41 3.58	6.48 6.48	7.53 9.67	3.32 6.00	12.79**
4. Years secondary vo-ag teaching experience needed for current position	0.86 1.39	1.61 1.90	1.73 1.87	1.14 1.61	3.21*
5. Years area school teaching experience (initial)	1.85 3.29	1.39 2.66	1.53 2.72	1.71 3.08	0.21
6. Years Iowa area school teaching experience needed for current position	0.58 1.20	0.48 1.16	1.13 1.64	0.63 1.27	1.42
7. Total years teaching experience (initial)	4.34 5.68	9.52 8.80	12.00 11.82	6.49 8.00	8.92** 2,3 > 1
8. Total years teaching experience needed for current position	1.42 1.70	2.26 2.12	3.53 3.98	1.89 2.32	6.02** 3 > 1
9. Years previous employment in business or industry related to current position	9.38 7.40	7.17 7.60	6.67 5.38	8.54 7.23	1.40
10. Years related employment in business or industry needed for current position	3.97 2.95	2.61 2.29	3.07 1.49	3.56 2.71	2.57

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[a] Group 1 = Area school instructors.

[b] Group 2 = Area school instructors--program coordinators.

[c] Group 3 = Area school department heads.

*Significant at the .05 level of probability.

**Significant at the .01 level of probability.

Table 3 (Continued)

Current and initial employment characteristic	Group 1 Mean S.D.	Group 2 Mean S.D.	Group 3 Mean S.D.	Total Mean S.D.	F ratio
11. Years previous employment in business or industry not related to current position	2.01 3.36	1.61 2.67	0.47 0.99	1.72 3.02	1.67
12. Years unrelated employment in business or industry needed for current position	0.30 1.06	0.31 0.78	0.07 0.26	0.28 0.93	0.46

coordinators and area school department heads reported mean responses of 5.35 years and 6.07 years respectively. These were significantly ($P < .01$) greater than the mean response of 3.63 years for area school instructors.

2. Years secondary vo-ag teaching experience. The mean years of secondary vo-ag teaching experience was 6.48 for program coordinators and 7.53 for department heads. These group mean responses were significantly ($P < .01$) greater than the group mean response of 1.41 years of vo-ag teaching for area school instructors.

3. Years secondary vo-ag teaching experience needed for current position. A significant ($P < .05$) F ratio of 3.21 was observed for responses among the three groups. However, the Duncan procedure for analyzing the three group means did not reveal significant differences.

4. Total years teaching experience. Program coordinators and department heads had completed a mean of 9.52 years and 12.0 years teaching experience respectively upon entering their current position. These group responses were significantly ($P < .01$) greater than the mean of 4.34 years teaching experience for area school instructors.

5. Total years teaching experience needed for current position. Area school department heads indicated a mean of 3.53 years teaching experience needed for the current position, which is significantly ($P < .01$) greater than the mean of 1.42 years needed for current position as reported by area school instructors.

The means, standard deviations and F ratios for current and initial employment characteristics among participants grouped by their agricultural program assigned are revealed in Table 4. A significant difference in responses among the four groups was observed for the following characteristics.

1. Participant's age. Agricultural supply and service instructors, and agricultural power and machinery mechanics instructors indicated a significantly ($P < .01$) greater mean age than did instructors whose major responsibilities were in agricultural production or horticulture.

2. Years taught in current position. Agricultural supply and service instructors indicated they had taught a significantly ($P < .01$) greater number of years in their current position than had agricultural production instructors and horticulture instructors. Agricultural power and machinery mechanics instructors had taught a significantly ($P < .01$) greater number of years than had horticulture instructors.

3. Years secondary vo-ag teaching experience. Agricultural supply and service instructors reported a significantly ($P < .05$) greater number of years of secondary vo-ag teaching experience than did agricultural production instructors and agricultural mechanics instructors.

4. Years secondary vo-ag teaching experience needed for current position. Agricultural supply and service instructors indicated a

Table 4. Means, standard deviations and F ratios for current and initial employment characteristics among participants grouped by agricultural program assigned.

Current and initial employment characteristic	Group 1[a] Mean S.D.	Group 2[b] Mean S.D.	Group 3[c] Mean S.D.	Group 4[d] Mean S.D.	Total Mean S.D.	F ratio
1. Participant's age	33.77 9.85	44.77 9.38	43.22 10.58	33.54 8.41	39.46 10.28	4.66** 2,3 > 1,4
2. Years taught in current position	3.78 2.67	5.71 2.62	4.61 3.11	2.54 2.18	4.10 2.81	3.93** 2 > 1,4; 3 4
3. Years secondary vo-ag teaching experience	2.02 3.64	5.82 6.51	1.11 3.60	2.39 6.58	2.57 4.88	3.53* 2 > 1,3
4. Years secondary vo-ag teaching experience needed for current position	1.02 1.47	1.82 1.88	0.50 1.20	0.62 1.45	1.01 1.54	2.66* 2 > 1,3,4
5. Years Iowa area school teaching experience (initial)	1.80 2.82	1.24 2.44	2.78 4.71	0.39 1.39	1.69 3.10	1.68
6. Years Iowa area school teaching experience needed for current position	0.47 1.00	0.24 0.56	1.44 1.92	0.15 0.56	0.57 1.20	4.78** 3 > 1,2,4
7. Total years teaching experience (initial)	4.76 5.57	9.29 9.14	5.00 6.54	3.62 7.29	5.44 6.85	2.39
8. Total years teaching experience needed for current position	1.76 1.87	1.88 1.83	1.56 1.89	0.77 1.48	1.61 1.82	1.16
9. Years previous employment in business or industry related to current position	7.78 6.66	9.82 7.76	13.44 8.82	5.77 5.12	8.92 7.44	3.77* 3 > 1,4

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[a] Group 1 = Agricultural production instructors.

[b] Group 2 = Agricultural supply and service instructors.

[c] Group 3 = Agricultural power and machinery mechanics instructors.

[d] Group 4 = Horticulture instructors.

*Significant at the .05 level of probability.

**Significant at the .01 level of probability.

Table 4 (Continued)

Current and initial employment characteristic	Group 1 Mean S.D.	Group 2 Mean S.D.	Group 3 Mean S.D.	Group 4 Mean S.D.	Total Mean S.D.	F ratio
10. Years related employment in business or industry needed for current position	3.12 2.64	3.35 2.37	5.33 3.77	3.62 1.45	3.64 2.81	2.96* 3 > 1,2
11. Years previous employment in business or industry not related to current position	1.80 2.91	1.24 2.08	2.11 4.35	2.85 3.26	1.90 3.14	0.69
12. Years unrelated employment in business or industry needed for current position	0.27 0.84	0.65 1.41	0.28 1.18	0.00 0.00	0.30 0.98	1.14

a significantly ($P < .05$) greater number of years of secondary vo-ag teaching experience needed for their current position than did instructors in the other three groups.

5. Years Iowa area school teaching experience needed for current position. Agricultural mechanics instructors indicated that a significantly ($P < .01$) greater number of years Iowa area school teaching experience was needed than did instructors in the other three groups.

6. Years of previous employment in business or industry related to current position. Agricultural mechanics instructors indicated a significantly ($P < .05$) greater number of years previous employment in business or industry related to their current position than did agricultural production and horticulture instructors.

7. Years related employment in business or industry needed for current position. Agricultural mechanics instructors indicated a significantly ($P < .05$) greater years related employment needed for their current position than did agricultural production instructors and agricultural supply and service instructors.

Table 5 reports the number and percentage of participants by staff position for which this was or was not their first position in Iowa area vocational schools.

Table 5. Number of participants by staff position for which this was or was not their first position in Iowa area schools

Group	First position in Iowa area school?			
	No		Yes	
	No.	Percent	No.	Percent
Area school instructors	6	8.7	63	91.3
Area school instructors - program coordinators	1	4.3	22	95.7
Area school department heads	3	20.0	12	80.0
Total	10		97	

Over 90 percent of the total group indicated that their current position was their first staff position in an Iowa area school. A majority (65 percent) of those indicating this as being their first staff position was among area school instructors.

The number and percentage of participants grouped by agricultural programs assigned for which this was or was not their first position in an Iowa area vocational school is revealed in Table 6. About 92 percent of the staff members who were assigned to an agricultural program

Table 6. Number of participants by agricultural program assigned for which this was or was not their first position in Iowa area schools

Agricultural program assigned	First position in Iowa area schools			
	No		Yes	
	No.	Percent	No.	Percent
Agricultural production	3	6.2	45	93.8
Agricultural supply and service	2	11.8	15	88.2
Agricultural power and machinery mechanics	2	11.1	16	88.9
Horticulture	1	7.7	12	92.3
Total	8		88	

indicated that this was their first position in an Iowa area school. The variation in number among agricultural program areas was minimal.

The participants were asked to indicate their highest educational degree possessed. The frequency and percentage of responses to this item of the questionnaire are summarized in Table 7. The data received from this variable were analyzed using the chi-square statistic. A significant ($P < .05$) chi-square value of 17.43 was observed for the relationship between participant's staff title and their highest educational degree earned. Over 88 percent of the total group had earned a degree higher than a high school diploma.

Table 8 reports the frequencies and percentages of responses to highest educational degree earned by participants grouped according to their agricultural program assigned.

Table 7. Chi-square test for relationship between staff title and highest educational degree

Educational	Frequency of responses by groups[a]							
	Group 1		Group 2		Group 3		Totals	
	No.	%	No.	%	No.	%	No.	%
High school diploma	12	16.9	1	4.3	0	0.0	13	11.9
Associate degree	2	2.8	2	8.7	0	0.0	4	3.7
Bachelor's degree	38	53.5	12	52.2	4	26.7	54	49.5
Master's degree	18	25.4	8	34.8	11	73.3	37	34.0
Ph.D. degree	1	1.4	0	0.0	0	0.0	1	0.9
Total	71		23		15		109	
	Chi-square = 17.43*							

[a] Group 1 = Area school instructors.

Group 2 = Area school instructors - program coordinators.

Group 3 = Area school department heads.

*Significant at the .05 level of probability.

Table 8. Chi-square test for relationship between agricultural program assigned and highest educational degree

Educational degree	Frequency of responses by groups[a]									
	Group 1		Group 2		Group 3		Group 4		Totals	
	No.	%	No.	%	No.	%	No.	%	No.	%
High school diploma	3	6.1	0	0.0	8	44.4	2	15.4	13	13.4
Associate degree	1	2.0	0	0.0	0	0.0	3	23.1	4	4.2
Bachelor's degree	28	57.1	11	64.7	9	50.0	4	30.8	52	53.6
Master's degree	17	34.7	6	35.3	1	5.6	3	23.1	27	27.8
Ph.D. degree	0	0.0	0	0.0	0	0.0	1	7.7	1	1.0
Total	49		17		18		13		97	
	Chi-square = 43.25***									

[a] Group 1 = Agricultural production instructors.
Group 2 = Agricultural supply and service instructors.
Group 3 = Agricultural power and machinery mechanics instructors.
Group 4 = Horticulture instructors.

***Significant at the .001 level of probability.

An analysis of the data revealed a significant ($P < .001$) chi-square value of 43.24 for the relationship between participant's agricultural program assigned and their highest educational degree earned. A considerably larger portion of participants with less than a bachelor's degree were in the agricultural power and machinery mechanics area of instruction.

Item number eight of the questionnaire asked participants to indicate the present Iowa teaching certificate which they possess. The frequencies and percentages for each response alternative by participants grouped according to their staff title are disclosed in Table 9.

Table 9. Chi-square test for relationship between staff title and present Iowa teaching certificate held

Teaching certificate held	Frequency of responses by groups[a]							
	Group 1		Group 2		Group 3		Totals	
	No.	%	No.	%	No.	%	No.	%
Temporary	13	18.3	3	13.0	1	6.7	17	15.6
Pre-professional	25	35.2	5	21.7	2	13.3	32	29.4
Professional	20	28.2	10	43.5	3	20.0	33	30.3
Permanent professional	13	18.3	5	21.7	9	60.0	27	24.8
Total	71		23		15		109	
	Chi-square = 14.54*							

[a] Group 1 = Area school instructors.

Group 2 = Area school instructors - program coordinators.

Group 3 = Area school department heads.

*Significant at the .05 level of probability.

About 45 percent of the area school staff participating in this study indicated they held either a temporary or pre-professional teaching certificate. A chi-square test for the relationship between participant's staff title and their present Iowa teaching certificate revealed a significant ($P < .05$) chi-square value of 14.54.

Table 10 presents the frequencies and percentages for present Iowa teaching certificate held among participants grouped by their agricultural program assigned.

Table 10. Chi-square test for relationship between agricultural program assigned and present Iowa teaching certificate held

Teaching certificate	Frequency of responses by groups[a]									
	Group 1		Group 2		Group 3		Group 4		Totals	
	No.	%	No.	%	No.	%	No.	%	No.	%
Temporary	4	8.2	1	5.9	6	33.3	6	46.2	17	17.5
Pre-professional	17	34.7	4	23.5	7	38.9	4	30.8	32	33.0
Professional	18	36.7	7	41.2	4	22.2	1	7.7	30	30.9
Permanent professional	10	20.4	5	29.4	1	5.6	2	15.4	18	18.6
Total	49		17		18		13		97	
	Chi-square = 19.83*									

[a] Group 1 = Agricultural production instructors.
Group 2 = Agricultural supply and service instructors.
Group 3 = Agricultural power and machinery mechanics instructors.
Group 4 = Horticulture instructors.

*Significant at the .05 level of probability.

About 47 percent of the staff who possessed less than a temporary or pre-professional teaching certificate were in the agricultural power and machinery mechanics or horticulture areas of instruction. A significant ($P < .05$) chi-square value of 19.83 was calculated for the relationship between their agricultural program assigned and their present Iowa teaching certificate held.

Table 11 reports the chi-square test for the relationship between participant's staff title, and the number of formal education credits in technical agriculture related to their teaching specialization they possessed at their initial employment.

Table 11. Chi-square test for relationship between staff title and formal education credits in technical agriculture related to specialization of teaching possessed at initial employment

Credits at initial employment	Frequency of responses by groups[a]							
	Group 1		Group 2		Group 3		Totals	
	No.	%	No.	%	No.	%	No.	%
0-10 credits	16	23.2	2	8.7	1	7.1	19	17.9
11-20 credits	6	8.7	0	0.0	0	0.0	6	5.7
21-30 credits	5	7.2	2	8.7	0	0.0	7	6.6
Over 30 credits	42	60.9	19	82.6	13	92.9	74	69.8
Total	69		23		14		106	
	Chi-square = 9.80 ns							

[a] Group 1 = Area school instructors.

Group 2 = Area school instructors - program coordinators.

Group 3 = Area school department heads.

Almost 18 percent of the participants indicated that at their initial employment, they had completed 10 or less semester credits of technical agriculture related to their specialization of teaching.

Table 12 summarizes the chi-square test for the relationship between participant's agricultural program assigned, and formal education credits in technical agriculture related to specialization of teaching they possessed at their initial employment. A significant ($P < .05$) chi-square value of 17.94 was observed, which would suggest that a relationship does exist between these two variables. A large portion of those instructors completing 10 credits or less in their area of teaching specialization were agricultural power and machinery mechanics instructors.

Table 12. Chi-square test for relationship between agricultural program assigned and formal education credits in technical agriculture related to specialization of teaching possessed at initial employment

Credits at initial employment	Frequency of responses by groups[a]									
	Group 1		Group 2		Group 3		Group 4		Totals	
	No.	%	No.	%	No.	%	No.	%	No.	%
0-10 credits	5	10.4	4	23.5	6	35.3	3	23.1	18	18.9
11-20 credits	3	6.3	0	0.0	3	17.6	0	0.0	6	6.3
21-30 credits	3	6.3	1	5.9	3	17.6	0	0.0	7	7.4
Over 30 credits	37	77.1	12	70.6	5	29.4	10	76.9	64	67.4
Total	48		17		17		13		95	
	Chi-square = 17.94*									

[a] Group 1 = Agricultural production instructors.

Group 2 = Agricultural supply and service instructors.

Group 3 = Agricultural power and machinery mechanics instructors.

Group 4 = Horticulture instructors.

[*] Significant at the .05 level of probability.

The chi-square test for the relationship between staff title and participant's perceived educational background needed today is shown in Table 13. Over 50 percent of the total group believed that a bachelor's degree was needed and over 20 percent indicated that a master's degree was necessary in their current position. No significant chi-square value was observed.

Table 13. Chi-square test for relationship between staff title and educational background needed today

Educational background needed today	Frequency of responses by groups[a]							
	Group 1		Group 2		Group 3		Totals	
	No.	%	No.	%	No.	%	No.	%
High school diploma	9	12.7	1	4.3	1	7.7	11	10.2
Associate degree	10	14.1	8	33.3	2	15.4	20	18.5
Bachelor's degree	39	54.9	9	37.5	7	53.8	55	50.9
Master's degree	13	18.3	6	25.0	3	23.1	22	20.4
Ph.D. degree	0	0.0	0	0.0	0	0.0	0	0.0
Total	71		24		13		108	
	Chi-square = 8.02 ns							

[a] Group 1 = Area school instructors.

Group 2 = Area school instructors - program coordinators.

Group 3 = Area school department heads.

Table 14 presents the chi-square test for the relationship between participant's agricultural program assigned and their perceived educational background needed in their current position. A significant ($P < .01$) chi-square value of 25.08 was observed for the relationship between these two variables.

Table 14. Chi-square test for relationship between agricultural program assigned and educational background needed today

Educational background needed today	Frequency of responses by groups[a]									
	Group 1		Group 2		Group 3		Group 4		Totals	
	No.	%	No.	%	No.	%	No.	%	No.	%
High school diploma	3	6.1	0	0.0	6	33.3	2	15.4	11	11.3
Associate degree	6	12.2	3	17.6	4	22.2	5	38.5	18	18.6
Bachelor's degree	25	51.0	12	70.6	7	38.9	6	46.2	50	51.5
Master's degree	15	30.6	2	11.8	1	5.6	0	0.0	18	18.6
Ph.D. degree	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Total	49		17		18		13		87	
	Chi-square = 25.08**									

[a] Group 1 = Agricultural production instructors.

Group 2 = Agricultural supply and service instructors.

Group 3 = Agricultural power and machinery mechanics instructors.

Group 4 = Horticulture instructors.

** Significant at the .01 level of probability.

The chi-square test for the relationship between participant's staff title and non-agricultural professional education credits possessed at initial employment is disclosed in Table 15. Over 30 percent of the participants possessed 10 semester credits or less at their initial employment.

Table 16 reports the chi-square test for the relationship between participant's agricultural program assigned and non-agricultural professional education credits possessed at their initial employment. A significant ($P < .05$) chi-square value of 16.53 would indicate that a

Table 15. Chi-square test for relationship between staff title and non-agricultural professional education credits possessed at initial employment

Credits possessed at initial employment	Frequency of responses by groups[a]							
	Group 1		Group 2		Group 3		Totals	
	No.	%	No.	%	No.	%	No.	%
0-10 credits	24	34.8	6	26.1	2	14.3	32	30.2
11-20 credits	13	18.8	5	21.7	1	7.1	19	17.9
21-30 credits	30	29.0	5	21.7	5	35.7	30	28.3
Over 30 credits	12	17.4	7	30.4	6	42.9	25	23.6
Total	69		23		14		106	
	Chi-square = 7.33 ns							

[a] Group 1 = Area school instructors.

Group 2 = Area school instructors - program coordinators.

Group 3 = Area school department heads.

Table 16. Chi-square test for relationship between agricultural program assigned and non-agricultural professional education credits possessed at initial employment

Credits possessed at initial employment	Frequency of responses by groups[a]									
	Group 1		Group 2		Group 3		Group 4		Totals	
	No.	%	No.	%	No.	%	No.	%	No.	%
0-10 credits	15	31.3	3	17.6	9	52.9	5	38.5	32	33.7
11-20 credits	9	18.7	3	17.6	3	17.7	3	23.1	18	18.9
21-30 credits	17	35.4	8	47.1	1	5.9	0	0.0	26	27.4
Over 30 credits	7	14.6	3	17.7	4	23.5	5	38.5	19	20.0
Total	48		17		17		13		95	
	Chi-square = 16.53*									

[a] Group 1 = Agricultural production instructors.

Group 2 = Agricultural supply and service instructors.

Group 3 = Agricultural power and machinery mechanics instructors.

Group 4 = Horticulture instructors.

*Significant at the .05 level of probability.

relationship does exist between these two variables analyzed.

Table 17 reveals the chi-square test for the relationship between participant's staff title and agricultural education credits possessed at initial employment. A significant ($P < .01$) relationship was discovered between these two variables. Over 42 percent of the total group had completed 10 or less credits in agricultural education. However, over 33 percent indicated they had completed more than 30 credits in agricultural education.

Table 17. Chi-square test for relationship between staff title and agricultural education credits possessed at initial employment

Credits at initial employment	Frequency of responses by groups[a]							
	Group 1		Group 2		Group 3		Totals	
	No.	%	No.	%	No.	%	No.	%
0-10 credits	39	57.4	4	19.05	2	11.8	45	42.9
11-20 credits	5	7.4	4	19.05	1	5.9	10	9.5
21-30 credits	10	14.7	2	15.4	3	17.6	15	14.3
Over 30 credits	14	20.6	10	47.6	11	54.7	35	33.3
Total	68		21		17		105	
	Chi-square = 21.22**							

[a] Group 1 = Area school instructors.
Group 2 = Area school instructors - program coordinators.
Group 3 = Area school department heads.

** Significant at the .01 level of probability.

Table 18 summarizes the chi-square test for the relationship between participant's agricultural program assigned, and agricultural education credits possessed at their initial employment. No significant chi-square value was observed.

Table 18. Chi-square test for relationship between agricultural program assigned and agricultural education credits possessed at initial employment

Credits at initial employment	Frequency of responses by groups[a]									
	Group 1		Group 2		Group 3		Group 4		Totals	
	No.	%	No.	%	No.	%	No.	%	No.	%
0-10 credits	18	37.5	7	41.2	10	62.5	9	69.2	44	46.8
11-20 credits	7	14.6	0	0.0	0	0.0	2	15.4	9	9.6
21-30 credits	10	20.8	2	11.8	2	12.5	0	0.0	14	14.9
Over 30 credits	13	27.1	8	47.1	4	25.0	2	15.4	27	28.7
Total	48		17		16		13		94	
	Chi-square = 14.28 ns									

[a] Group 1 = Agricultural production instructors.
Group 2 = Agricultural supply and service instructors.
Group 3 = Agricultural power and machinery mechanics instructors.
Group 4 = Horticulture instructors.

The chi-square test for the relationship between staff title and amount of supervised student teaching possessed at initial employment is reported in Table 19. A significant ($P < .05$) chi-square value of 13.96 was observed for the relationship between these two variables. Over 40 percent of the total staff participating in the study had completed no supervised student teaching.

Table 19. Chi-square test for relationship between staff title and amount of supervised student teaching possessed at initial employment

Amount at initial employment	Frequency of responses by groups[a]							
	Group 1		Group 2		Group 3		Totals	
	No.	%	No.	%	No.	%	No.	%
None	34	49.3	7	30.4	2	14.3	43	40.6
1-6 weeks	14	20.3	7	30.4	2	14.3	23	21.7
7-12 weeks	11	15.9	6	26.1	8	57.1	25	23.6
Over 12 weeks	10	14.5	3	13.0	2	14.3	15	14.2
Total	69		23		14		106	
	Chi-square = 13.96*							

[a] Group 1 = Area school instructors.

Group 2 = Area school instructors - program coordinators.

Group 3 = Area school department heads.

*Significant at the .05 level of probability.

Table 20 reveals the chi-square test for the relationship between participant's agricultural program assigned, and amount of supervised student teaching possessed at their initial employment. No significant chi-square value was observed.

Table 20. Chi-square test for relationship between agricultural program assigned and amount of supervised student teaching possessed at initial employment

Amount at initial employment	Frequency of responses by groups[a]									
	Group 1		Group 2		Group 3		Group 4		Totals	
	No.	%	No.	%	No.	%	No.	%	No.	%
None	18	37.5	6	35.3	9	52.9	10	76.9	43	45.3
1-6 weeks	14	29.2	2	11.8	2	11.8	3	23.1	21	22.1
7-12 weeks	10	20.8	5	29.4	2	11.8	0	0.0	17	17.9
Over 12 weeks	6	12.5	4	23.5	4	23.5	0	0.0	14	14.7
Total	48		17		17		13		95	
	Chi-square = 14.88 ns									

[a] Group 1 = Agricultural production instructors.

Group 2 = Agricultural supply and service instructors.

Group 3 = Agricultural power and machinery mechanics instructors.

Group 4 = Horticulture instructors.

Importance Ratings of Professional Education Competencies Needed

Part III of the survey instrument contained 105 professional education competencies in ten professional competency groups. Participants were asked to respond to each professional competency item in terms of its importance in performing as an area school instructor of agriculture.

After reading each competency statement, they were instructed to circle the "A" (agree) if they agree that the competency statement is important or the "D" (disagree) if they feel the competency is not important in performing as an area school instructor of agriculture. If they were completely uncertain, they were to circle both A and D.

Once this decision was made, they were requested to write a number in the blank provided that indicates the degree of certainty they feel about their choice using the following rating scale:

1 - not very certain (strong reservations)

2 - slightly certain

3 - moderately certain

4 - certain

5 - very certain (no reservations)

The ratings were then transformed to a continuum and expressed as a rating scale with a numerical value from 1 - 11, with 1 the lowest and 11 the highest rating. A rating of 1 - 5 would indicate those who circled "D" (disagree) and 7 - 11 would represent those who circled "A" (agree). A rating of 6 would represent those who circled A and D (completely uncertain). These values were then tabulated and means, standard deviations and analysis of variance using the F ratio were calculated. The Duncan procedure for multiple comparisons was used for multiple comparison among group means. Group comparisons were made for each competency when participants were grouped by their staff title and by their agricultural program assigned. Analysis of each competency will be presented by professional competency groups.

Tables 21 through 30 present the means, standard deviations and F ratios for the importance ratings of each competency when comparisons were made among participants grouped by their staff title. Competencies are ranked by total mean rating within each competency group. Significant differences were observed among staff title groups for the following

Table 21. Means, standard deviations and F ratios for importance ratings of professional education competencies (Instructional Activities - Planning) needed to perform as an area school instructor, as perceived by participants grouped by staff title

A. INSTRUCTIONAL ACTIVITIES - PLANNING Competency	Group 1[a] Mean S.D.	Group 2[b] Mean S.D.	Group 3[c] Mean S.D.	Total Mean S.D.	F ratio
1. Develop real laboratory experiences as an integral part of the instructional program	9.68 1.77	9.83 2.17	9.60 2.06	9.70 1.88	0.08
2. Select appropriate instructional method(s) for learning situation	9.66 1.73	9.70 2.14	9.40 2.64	9.63 1.95	0.13
3. Select appropriate textbooks and instructional resource(s) for learning situation	9.56 1.68	9.61 2.13	8.87 2.90	9.48 1.98	0.83
4. Design and select student learning activities through which students can accomplish stated performance objectives	9.45 1.98	8.52 3.12	9.47 1.64	9.26 2.24	1.58
5. Develop and write course outlines	9.19 1.89	9.04 2.74	9.47 1.64	9.19 2.05	0.19
6. Select appropriate audio-visual materials for instructional purposes	8.92 2.26	9.09 2.37	9.60 1.12	9.05 2.16	0.62
7. Write measurable performance objectives for program and instructional units	8.96 2.36	8.17 3.33	9.20 2.04	8.83 2.56	1.00
8. Develop simulated laboratory experiences as an integral part of the instructional program	8.65 2.68	8.22 3.22	8.40 1.92	8.52 2.70	0.24
9. Develop a variety of audio-visual materials for instructional purposes	8.44 2.40	7.91 3.20	8.21 2.94	8.30 2.64	0.34

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[a] Group 1 = Area school instructors.

[b] Group 2 = Area school instructors--program coordinators.

[c] Group 3 = Area school department heads.

Table 21 (Continued)

A. INSTRUCTIONAL ACTIVITIES - PLANNING Competency	Group 1 Mean S.D.	Group 2 Mean S.D.	Group 3 Mean S.D.	Total Mean S.D.	F ratio
10. Plan, provide and schedule the utilization of facilities and equipment for maximum student benefit	8.31 3.01	7.91 3.16	8.00 2.51	8.18 2.96	0.19
11. Organize and break down agricultural occupation(s) into component parts for instructional and guidance purposes	7.83 2.80	7.78 2.73	7.50 3.03	7.78 2.79	0.08
12. Develop and implement individualized instructional materials	7.37 2.89	7.30 3.36	7.71 3.10	7.40 3.00	0.09
13. Build models and displays for instructional purposes	7.15 3.00	6.83 3.43	7.40 2.0[illegible]	7.12 2.97	0.18
14. Develop individualized delivery system for students	6.76 3.07	7.22 3.36	7.93 2.46	7.01 3.06	1.92
15. Reproduce instructional materials with a variety of duplicating equipment	6.61 3.41	7.74 3.76	6.86 3.23	6.88 3.46	0.93

Table 22. Means, standard deviations and F ratios for importance ratings of professional education competencies (Instructional Activities - Execution) needed to perform as an area school instructor, as perceived by participants grouped by staff title

B. INSTRUCTIONAL ACTIVITIES - EXECUTION Competency	Group 1[a] Mean S.D.	Group 2[b] Mean S.D.	Group 3[c] Mean S.D.	Total Mean S.D.	F ratio
1. Maintain effective learning environment	9.75 1.58	10.17 1.03	9.87 1.36	9.85 1.45	0.75
2. Utilize a variety of instructional methods in program delivery	9.73 1.44	9.70 1.69	9.47 1.25	9.69 1.46	0.20
3. Employ a variety of individual and group motivational techniques	9.52 1.47	9.74 1.39	9.93 1.14	9.62 1.41	0.59
4. Employ a variety of instructional resources in program delivery	9.49 1.81	9.48 2.06	9.80 1.21	9.53 1.79	0.19
5. Relate personal experiences and events to agricultural occupational instruction	9.46 2.21	10.00 1.13	8.93 2.52	9.50 2.08	1.23
6. Plan, organize and conduct field trips	9.42 1.89	9.87 1.91	9.13 2.64	9.48 2.01	0.68
7. Develop interest approaches for each instructional period	8.72 2.23	9.74 1.60	9.86 1.17	9.08 2.05	3.45*
8. Utilize a student-centered teaching style	9.06 1.85	8.04 3.14	9.57 1.50	8.91 2.19	2.69
9. Function as a director of learning process	8.72 2.29	7.96 2.74	9.00 2.59	8.60 2.43	1.09
10. Summarize daily and unit instruction	8.32 2.14	9.04 2.12	9.00 1.68	8.56 2.09	1.36
11. Develop and utilize the learning resource center in instructional activities	7.97 2.66	8.65 2.08	8.43 1.91	8.18 2.46	0.75
12. Write a daily instructional plan	7.51 3.05	7.83 2.98	8.13 2.56	7.66 2.96	0.32

[a] Group 1 = Area school instructors.

[b] Group 2 = Area school instructors--program coordinators.

[c] Group 3 = Area school department heads.

* Significant at the .05 level of probability.

Table 23. Means, standard deviations and F ratios for importance ratings of professional education competencies (Instructional Activities - Evaluation) needed to perform as an area school instructor, as perceived by participants grouped by staff title

C. INSTRUCTIONAL ACTIVITIES - EVALUATION Competency	Group 1[a] Mean S.D.	Group 2[b] Mean S.D.	Group 3[c] Mean S.D.	Total Mean S.D.	F ratio
1. Assist students in evaluating their own progress	9.41	9.83	9.67	9.53	0.50
	1.91	1.88	1.23	1.82	
2. Develop tests and criteria for measuring student performance and progress	9.18	9.70	9.93	9.39	1.11
	2.13	2.16	1.14	2.05	
3. Evaluate field trips and laboratory activities	8.97	9.83	9.53	9.23	2.21
	2.06	1.07	1.19	1.80	
4. Evaluate own techniques and methods of teaching for effectiveness according to standards of agricultural occupations and based on student needs	9.17	9.44	9.00	9.20	0.24
	2.13	2.02	1.41	2.01	
5. Evaluate the overall effectiveness of program in terms of program objectives	8.66	8.87	9.67	8.84	0.98
	2.58	2.72	1.80	2.52	
6. Maintain student performance or progress reports and competency records	8.86	8.48	9.20	8.83	0.46
	2.32	2.56	1.97	2.32	
7. Formulate a system of grading consistent with the department and area school policy	7.61	9.00	9.20	8.12	3.23*
	3.05	2.78	2.21	2.95	
8. Evaluate performance of other instructional staff	4.89	6.39	5.53	5.29	2.35
	2.82	3.27	2.90	2.97	

[a] Group 1 = Area school instructors.

[b] Group 2 = Area school instructors - program coordinators.

[c] Group 3 = Area school department heads.

*Significant at the .05 level of probability.

Table 24. Means, standard deviations and F ratios for importance ratings of professional education competencies (Program Planning) needed to perform as an area school instructor, as perceived by participants grouped by staff title

D. PROGRAM PLANNING Competency	Group 1[a] Mean S.D.	Group 2[b] Mean S.D.	Group 3[c] Mean S.D.	Total Mean S.D.	F ratio
1. Select, utilize and maintain agricultural program advisory committee	9.04 2.00	9.78 1.20	9.73 1.16	9.29 1.79	2.06
2. Determine and develop facilities essential to the program	9.21 1.76	8.74 2.73	8.60 2.20	9.03 2.06	0.83
3. Develop and analyze agricultural program goals and objectives	9.10 1.83	7.96 2.99	9.53 2.99	8.92 2.10	3.48* 1,3 > 2
4. Assist administrators in developing and maintaining agricultural program	8.34 2.94	9.48 1.41	9.07 1.83	8.68 2.59	1.92
5. Promote and conduct adult or technical in-service agricultural programs	7.72 2.72	8.74 2.47	7.53 2.64	7.91 2.67	1.46
6. Conduct and interpret a task (competency) or activity analysis of agricultural occupations	6.93 2.78	6.74 3.06	8.64 1.50	7.11 2.76	2.60
7. Utilize local and statewide guidelines and needs assessments for program planning	6.75 2.88	7.48 2.95	7.47 3.09	7.00 2.92	0.77
8. Conduct community surveys to improve instruction or plan programs	6.80 2.82	7.17 3.03	7.20 3.26	6.94 2.90	0.21
9. Utilize local and statewide policy in securing reimbursement for occupational programs	6.23 3.37	6.96 3.07	6.87 3.34	6.47 3.29	0.55
10. Interpret the socio-economic and power structure of the community	6.39 3.06	5.44 3.20	6.00 2.54	6.14 3.02	0.89

[a] Group 1 = Area school instructors.
[b] Group 2 = Area school instructors--program coordinators.
[c] Group 3 = Area school department heads.
[*] Significant at the .05 level of probability.

Table 25. Means, standard deviations and F ratios for importance ratings of professional education competencies (Coordination--on-the-Job) needed to perform as an area school instructor, as perceived by participants grouped by staff title

E. COORDINATION--ON-THE-JOB Competency	Group 1[a] Mean S.D.	Group 2[b] Mean S.D.	Group 3[c] Mean S.D.	Total Mean S.D.	F ratio
1. Maintain liaison with agriculture employment agencies and potential employers	9.66 1.55	9.64 1.62	9.73 1.62	9.67 1.56	0.02
2. Evaluate objectively student performance on-the-job	9.28 1.93	8.86 3.04	9.87 1.30	9.28 2.14	0.99
3. Evaluate on-the-job experience programs and experience centers	8.94 2.48	9.59 2.46	9.73 1.28	9.19 2.35	1.11
4. Supervise students while placed on-the-job	8.59 2.90	10.23 1.19	9.87 1.36	9.10 2.55	4.50** 2 > 1
5. Plan and coordinate on-the-job experience programs	8.39 2.69	9.27 2.78	9.73 1.39	8.76 2.60	2.23
6. Develop on-the-job training plans for students	8.11 2.83	8.41 2.59	9.93 1.49	8.43 2.90	2.50
7. Secure on-the-job training stations for students	7.92 3.16	9.09 2.83	9.33 2.13	8.35 3.01	2.26
8. Select on-the-job training centers	7.87 2.77	9.23 2.88	9.00 2.56	8.31 2.81	2.56
9. Conduct a training station development program	6.85 2.81	6.96 3.37	7.53 2.56	6.96 2.88	0.35

[a] Group 1 = Area school instructors.

[b] Group 2 = Area school instructors--program coordinators.

[c] Group 3 = Area school department heads.

*Significant at the .05 level of probability.

Table 26. Means, standard deviations and F ratios for importance ratings of professional education competencies (Area School-Community Relations) needed to perform as an area school instructor, as perceived by participants grouped by staff title

F. AREA SCHOOL - COMMUNITY RELATIONS Competency	Group 1[a] Mean S.D.	Group 2[b] Mean S.D.	Group 3[c] Mean S.D.	Total Mean S.D.	F ratio
1. Work cooperatively with individuals, business and industry in the community	9.85 1.52	10.04 1.07	10.13 0.99	9.93 1.37	0.38
2. Develop good working relationships with area school personnel and staff	9.56 1.40	9.48 2.00	8.87 2.45	9.45 1.71	1.04
3. Communicate ideas and concepts to other instructors, area school personnel, and community members	8.87 1.87	8.91 2.19	9.33 2.06	8.95 1.96	0.34
4. Articulate agricultural program with other agricultural education institutions or programs, such as, vocational agriculture, cooperative extension, and university	8.78 2.51	9.09 2.64	9.13 2.10	8.89 2.47	0.22
5. Participate in community organizations and activities	8.53 2.09	8.96 1.99	9.20 1.32	8.72 1.98	0.91
6. Obtain information and materials for update and news releases	8.37 2.40	9.00 2.30	9.47 1.30	8.65 2.28	1.81
7. Participate in local staff organizations and activities	8.48 2.08	8.57 2.31	9.07 1.28	8.58 2.04	0.51
8. Work with faculty members on area school committees	8.24 2.06	8.22 2.61	9.00 1.93	8.34 2.17	0.81
9. Cooperate and work with adult education division	8.12 2.53	8.09 3.06	9.47 0.83	8.30 2.53	1.90
10. Cooperate and work with instructors in transfer education	8.14 2.12	7.65 2.95	7.87 2.50	8.00 2.35	0.40

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[a] Group 1 = Area school instructors.

[b] Group 2 = Area school instructors--program coordinators.

[c] Group 3 = Area school department heads.

Table 26 (Continued)

F. AREA SCHOOL - COMMUNITY RELATIONS Competency	Group 1[a] Mean S.D.	Group 2[b] Mean S.D.	Group 3[c] Mean S.D.	Total Mean S.D.	F ratio
11. Understand and interpret the community problems and culture	7.82 2.72	7.87 2.80	7.87 2.77	7.84 2.72	0.01
12. Assist in the development of the total area school program	7.21 2.87	8.44 2.47	7.87 2.80	7.56 2.80	1.78

Table 27. Means, standard deviations and F ratios for importance ratings of professional education competencies (Student Activities) needed to perform as an area school instructor, as perceived by participants grouped by staff title

G. STUDENT ACTIVITIES Competency	Group 1[a] Mean S.D.	Group 2[b] Mean S.D.	Group 3[c] Mean S.D.	Total Mean S.D.	F ratio
1. Develop and maintain rapport with students	10.03 1.30	10.61 0.50	10.40 1.12	10.20 1.17	2.46
2. Recruit and interview students for agricultural programs	9.16 2.16	9.61 2.33	10.13 1.19	9.39 2.10	1.52
3. Develop and guide special study topics for students	8.59 1.99	8.30 2.74	9.07 1.28	8.60 2.09	0.60
4. Promote, sponsor, and advise student program or department organizations and activities	8.32 2.04	8.30 3.02	9.07 1.22	8.42 2.20	0.75
5. Conduct pre-assessment of students' interests, abilities and aptitudes	7.49 2.97	8.48 2.37	8.67 2.29	7.87 2.79	1.83
6. Complete and process student records and reports for student personnel services	6.00 3.39	6.61 3.13	6.27 2.94	6.17 3.26	3.08

[a] Group 1 = Area school instructors.

[b] Group 2 = Area school instructors--program coordinators.

[c] Group 3 = Area school department heads.

Table 28. Means, standard deviations and F ratios for importance ratings of professional education competencies (Professional Role) needed to perform as an area school instructor, as perceived by participants grouped by staff title

H. PROFESSIONAL ROLE Competency	Group 1[a] Mean S.D.	Group 2[b] Mean S.D.	Group 3[c] Mean S.D.	Total Mean S.D.	F ratio
1. Plan a personal program of continuing professional education	8.76 2.44	9.04 2.18	9.33 1.45	8.90 2.27	0.45
2. Participate in professional organizations related to educational and technical agriculture areas	8.61 2.26	8.91 2.58	9.73 1.22	8.83 2.24	1.62
3. Use information contained in professional journals for personal development and improvement of instruction	8.55 2.26	8.74 2.26	9.13 2.20	8.67 2.24	0.43
4. Adapt your appearance and apparel to acceptable standards for teachers	8.32 2.52	9.09 1.86	8.73 1.58	8.54 2.29	1.03
5. Interpret the legal responsibilities and liabilities of a teacher	8.41 2.81	8.57 2.81	8.40 2.67	8.44 2.77	0.03
6. Interpret the goals and objectives of agricultural education	8.41 2.58	8.26 2.63	8.60 2.41	8.40 2.55	0.08
7. Interpret the philosophy and goals of the area school	8.06 2.91	8.52 2.54	9.27 1.53	8.32 2.70	1.33
8. Recognize issues which divide educators	7.76 2.45	7.83 2.66	7.47 2.80	7.73 2.52	0.10
9. Interpret the history of vocational, occupational and career education	6.46 2.87	6.91 3.29	7.40 2.23	6.69 2.88	0.75

[a] Group 1 = Area school instructors.

[b] Group 2 = Area school instructors--program coordinators.

[c] Group 3 = Area school department heads.

Table 29. Means, standard deviations and F ratios for importance ratings of professional education competencies (Guidance and Counseling) needed to perform as an area school instructor, as perceived by participants grouped by staff title

I. GUIDANCE AND COUNSELING	Group 1[a]		Group 2[b]		Group 3[c]		Total		F ratio
Competency	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	
1. Inform students of the nature and requirements of specific agricultural occupations	9.54	1.49	9.61	1.44	9.53	1.19	9.55	1.43	0.02
2. Identify students in need of counseling or guidance	9.52	1.55	9.30	2.06	9.67	1.23	9.50	1.62	0.25
3. Relate to students from different socio-economic backgrounds	9.23	1.85	9.04	2.18	9.13	1.25	9.17	1.84	0.09
4. Assist students in securing permanent employment	8.79	2.61	9.70	2.44	9.93	1.28	9.14	2.47	2.12
5. Recognize, interpret and utilize student actions and behaviors	8.89	2.07	8.91	1.35	8.60	1.84	8.85	1.90	0.15
6. Assist students in entering programs of advanced occupational training or education	8.75	2.10	8.96	2.48	8.47	1.55	8.75	2.11	0.24
7. Identify students with special needs and counsel with them in utilizing the learning resource center	8.69	2.13	9.09	1.51	8.13	1.89	8.70	1.98	1.05
8. Use counseling techniques to help students solve personal, social, educational problems	8.89	2.28	8.17	2.92	7.60	2.77	8.55	2.52	2.00
9. Assist students in developing appropriate study practices	8.23	2.23	8.04	2.80	8.53	2.36	8.23	2.36	0.19
10. Provide special training or assistance to students who are disadvantaged or handicapped	8.04	2.72	8.04	2.60	9.07	1.49	8.18	2.57	1.03

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[a] Group 1 = Area school instructors.

[b] Group 2 = Area school instructors--program coordinators.

[c] Group 3 = Area school department heads.

Table 29 (Continued)

I. GUIDANCE AND COUNSELING Competency	Group 1 Mean S.D.	Group 2 Mean S.D.	Group 3 Mean S.D.	Total Mean S.D.	F ratio
11. Develop and maintain a relationship with and use student personnel services	8.13 2.12	7.61 2.52	8.00 2.75	8.00 2.29	0.44
12. Design, conduct, interpret, and use follow-up studies of program enrollees and graduates	7.69 2.88	7.47 3.20	8.73 1.79	7.79 2.83	1.02
13. Counsel and advise parents	6.78 3.05	7.39 3.39	6.60 2.87	6.88 3.08	0.42

Table 30. Means, standard deviations and F ratios for importance ratings of professional education competencies (Job Management) needed to perform as an area school instructor, as perceived by participants grouped by staff title

J. JOB MANAGEMENT Competency	Group 1[a]		Group 2[b]		Group 3[c]		Total		F ratio
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	
1. Develop and implement appropriate safety procedures	9.68	1.60	9.91	1.83	9.87	1.36	9.75	1.61	0.23
2. Maintain safe, orderly, clean program facilities and equipment	9.47	1.91	10.09	1.28	10.33	0.72	9.72	1.70	2.37
3. Develop and maintain a positive working relationship with the administration	9.51	1.61	9.78	1.09	10.20	0.86	9.66	1.44	1.55
4. Develop and communicate rules, procedures and acceptable standards of student behavior	9.51	1.62	9.91	0.95	9.20	1.47	9.55	1.49	1.13
5. Interpret and adhere to area school policy	9.24	1.82	9.09	2.23	9.87	1.41	9.29	1.87	0.88
6. Purchase appropriate equipment and materials	9.37	1.85	9.74	1.66	8.07	3.22	9.27	2.09	3.28* 1,2 > 3
7. Develop a system for filing and records management	9.10	2.15	8.57	2.59	9.47	1.89	9.04	2.22	0.83
8. Select and follow procedures in obtaining appropriate reference materials for students and staff	8.92	2.03	8.83	2.37	9.47	1.13	8.97	2.01	0.54
9. Maintain necessary reports required by area school administrators, state agencies, and federal programs	8.31	2.61	8.48	2.76	9.20	1.94	8.47	2.56	0.75

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[a] Group 1 = Area school instructors.

[b] Group 2 = Area school instructors--program coordinators.

[c] Group 3 = Area school department heads.

*Significant at the .05 level of probability.

Table 30 (Continued)

J. JOB MANAGEMENT Competency	Group 1 Mean S.D.	Group 2 Mean S.D.	Group 3 Mean S.D.	Total Mean S.D.	F ratio
10. Plan and prepare budgets for occupational program	7.76 2.96	8.09 3.19	8.20 3.21	7.89 3.02	0.19
11. Use formalized criteria in selection and obtaining equipment, materials, and supplies for instructional purposes	7.59 2.86	8.26 2.85	7.53 3.36	7.73 2.92	0.49

competencies listed by competency number.

B-7. *Develop interest approaches for each instructional period*. Although a significant ($P < .05$) F ratio of 3.45 was observed among the three group means, the Duncan procedure for multiple comparisons did not reveal significant differences.

C-7. *Formulate a system of grading consistent with the department and area school policy*. A significant ($P < .05$) F ratio of 3.23 was observed. However, using the Duncan procedure no significant differences were found.

D-3. *Develop and analyze agricultural program goals and objectives*. The mean ratings for area school instructors and department heads were significantly greater than the mean rating observed for instructors who were program coordinators.

E-4. *Supervise students while placed on-the-job*. A significantly higher mean importance rating was observed for program coordinators than for instructors.

J-6. *Purchase appropriate equipment and materials*. The mean importance ratings of instructors and program coordinators were significantly greater than the mean rating for department heads.

Tables 31 through 40 report the means, standard deviations and F ratios for the importance ratings of these competencies when comparisons were made among the participants grouped by their agricultural program area assigned. The competencies are revealed by professional competency group and are ranked by total group mean rating. Significant differences

Table 31. Means, standard deviations and F ratios for importance ratings of professional education competencies (Instructional Activities - Planning) needed to perform as an area school instructor, as perceived among participants grouped by agricultural program assigned

A. INSTRUCTIONAL ACTIVITIES - PLANNING Competency	Group 1[a] Mean S.D.	Group 2[b] Mean S.D.	Group 3[c] Mean S.D.	Group 4[d] Mean S.D.	Total Mean S.D.	F ratio
1. Develop real laboratory experiences as an integral part of the instructional program	9.43 2.02	9.29 2.54	10.11 1.18	10.46 1.20	9.67 1.93	1.54
2. Select appropriate instructional method(s) for learning situation	9.23 2.21	10.41 1.06	9.44 2.41	9.85 1.21	9.56 2.01	1.61
3. Select appropriate textbooks and instructional resource(s) for learning situation	9.31 2.14	10.06 1.03	9.33 2.43	9.85 0.90	9.52 1.93	0.82
4. Design and select student learning activities through which students can accomplish stated performance objectives	9.02 2.28	9.82 1.63	8.83 2.73	9.39 2.79	9.18 2.33	0.67
5. Develop and write course outlines	8.96 2.08	9.82 1.13	9.17 2.31	9.00 2.74	9.15 2.09	0.74
6. Select appropriate audio-visual materials for instructional purposes	8.98 2.15	8.47 2.90	8.89 2.45	9.92 1.12	9.00 2.26	1.06
7. Write measurable performance objectives for program and instructional units	8.98 2.39	9.12 2.45	8.17 3.29	8.08 3.01	8.73 2.66	0.79
8. Develop simulated laboratory experiences as an integral part of the instructional program	8.61 2.64	8.12 2.67	8.72 2.93	8.39 3.55	8.52 2.80	0.17

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[a] Group 1 = Agricultural production instructors.

[b] Group 2 = Agricultural supply and service instructors.

[c] Group 3 = Agricultural power and machinery mechanics instructors.

[d] Group 4 = Horticulture instructors.

Table 31 (Continued)

A. INSTRUCTIONAL ACTIVITIES - PLANNING Competency	Group 1 Mean S.D.	Group 2 Mean S.D.	Group 3 Mean S.D.	Group 4 Mean S.D.	Total Mean S.D.	F ratio
9. Develop a variety of audio-visual materials for instructional purposes	8.47 2.47	7.94 2.61	7.56 3.35	8.92 1.98	8.27 2.62	0.90
10. Plan, provide and schedule the utilization of facilities and equipment for maximum student benefit	8.00 2.77	7.77 3.17	8.67 3.14	8.92 3.62	8.21 3.01	0.58
11. Organize and break down agricultural occupation(s) into component parts for instructional and guidance purposes	7.41 2.93	8.65 2.21	3.39 2.75	7.77 2.59	7.86 2.75	1.14
12. Develop and implement individualized instructional materials	7.39 3.23	6.94 2.68	7.11 2.89	7.66 2.99	7.29 3.01	0.16
13. Build models and displays for instructional purposes	6.90 3.23	7.12 3.06	8.17 2.66	6.23 2.95	7.08 3.07	1.14
14. Develop individualized delivery system for students	6.78 3.23	7.06 3.03	7.11 3.18	7.08 2.93	6.93 3.10	0.08
15. Reproduce instructional materials with a variety of duplicating equipment	7.27 3.41	6.00 3.86	6.94 3.54	5.69 3.50	6.77 3.53	1.01

Table 32. Means, standard deviations and F ratios for importance ratings of professional education competencies (Instructional Activities - Execution) needed to perform as an area school instructor, as perceived among participants grouped by agricultural program assigned

B. INSTRUCTIONAL ACTIVITIES - EXECUTION Competency	Group 1[a] Mean S.D.	Group 2[b] Mean S.D.	Group 3[c] Mean S.D.	Group 4[d] Mean S.D.	Total Mean S.D.	F ratio
1. Maintain effective learning environment	9.65 1.44	10.06 1.95	10.00 1.19	10.00 1.41	9.84 1.48	0.49
2. Utilize a variety of instructional methods in program delivery	9.63 1.54	9.94 1.09	9.56 2.01	9.85 0.90	9.70 1.49	0.27
3. Employ a variety of individual and group motivational techniques	9.49 1.24	9.88 1.58	9.50 1.65	9.69 1.80	9.59 1.45	0.35
4. Relate personal experiences and current events to agricultural occupational instruction	9.57 1.79	10.18 1.07	8.72 3.08	9.54 2.82	9.52 2.16	1.37
5. Employ a variety of instructional resources in program delivery	9.61 1.55	9.59 1.94	9.06 2.69	9.46 1.39	9.49 1.84	0.41
6. Plan, organize and conduct field trips	9.41 1.80	10.06 1.43	8.28 3.20	10.23 1.01	9.42 2.08	3.22* 1,2,4 > 3
7. Develop interest approaches for each instructional period	9.16 1.88	9.35 1.90	8.50 2.68	8.62 2.40	9.00 2.11	0.73
8. Utilize student-centered teaching style	8.69 2.35	9.35 2.06	8.61 2.50	8.77 1.79	8.80 2.24	0.42
9. Summarize daily and unit instruction	8.49 2.10	9.35 1.69	8.00 2.12	7.92 2.57	8.48 2.13	1.57
10. Function as a director of learning process	8.23 2.71	9.00 1.94	8.61 3.03	8.54 1.45	8.47 2.51	0.43

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[a] Group 1 = Agricultural production instructors.

[b] Group 2 = Agricultural supply and service instructors.

[c] Group 3 = Agricultural power and machinery mechanics instructors.

[d] Group 4 = Horticulture instructors.

[*] Significant at the .05 level of probability.

Table 32 (Continued)

B. INSTRUCTIONAL ACTIVITIES - EXECUTION Competency	Group 1 Mean S.D.	Group 2 Mean S.D.	Group 3 Mean S.D.	Group 4 Mean S.D.	Total Mean S.D.	F ratio
11. Develop and utilize the learning resource center in instructional activities	7.65 2.71	8.71 1.69	8.12 2.87	9.15 1.82	8.13 2.51	1.64
12. Write a daily instructional plan	6.96 3.12	8.41 2.90	8.17 3.01	7.85 2.19	7.56 3.00	1.42

Table 33. Means, standard deviations and F ratios for importance ratings of professional education competencies (Instructional Activities - Evaluation) needed to perform as an area school instructor, as perceived among participants grouped by agricultural program assigned

C. INSTRUCTIONAL ACTIVITIES - EVALUATION Competency	Group 1[a] Mean S.D.	Group 2[b] Mean S.D.	Group 3[c] Mean S.D.	Group 4[d] Mean S.D.	Total Mean S.D.	F ratio
1. Assist students in evaluating their own progress	9.41 1.96	10.06 1.75	9.17 2.09	9.62 1.33	9.51 1.87	0.75
2. Develop tests and criteria for measuring student performance and progress	9.02 2.38	9.77 2.11	9.44 2.01	9.69 0.95	9.32 2.12	0.72
3. Evaluate own techniques and methods of teaching for effectiveness according to standards of agricultural occupations and based on student needs	9.00 1.97	10.12 1.22	8.50 2.85	9.85 1.72	9.22 2.08	2.46
4. Evaluate field trips and laboratory activities	9.14 1.76	9.41 2.24	8.89 2.30	9.39 1.33	9.18 1.89	0.28
5. Evaluate the overall effectiveness of program in terms of program objectives	8.55 2.41	9.65 2.45	8.50 3.05	8.54 2.67	8.73 2.57	0.87
6. Maintain student performance or progress reports and competency records	8.16 2.80	9.12 1.58	9.50 2.26	9.31 1.11	8.73 2.40	1.99
7. Formulate a system of grading consistent with the department and area school policy	7.63 3.28	9.71 1.26	8.50 2.41	6.46 3.31	8.00 3.00	3.67*
8. Evaluate performance of other instructional staff	4.78 3.01	6.41 3.02	5.78 3.00	4.92 2.69	5.27 3.00	1.52

[a] Group 1 = Agricultural production instructors.

[b] Group 2 = Agricultural supply and service instructors.

[c] Group 3 = Agricultural power and machinery mechanics instructors.

[d] Group 4 = Horticulture instructors.

*Significant at the .05 level of probability.

Table 34. Means, standard deviations and F ratios for importance ratings of professional education competencies (Program Planning) needed to perform as an area school instructor, as perceived among participants grouped by agricultural program assigned

D. PROGRAM PLANNING Competency	Group 1[a] Mean S.D.	Group 2[b] Mean S.D.	Group 3[c] Mean S.D.	Group 4[d] Mean S.D.	Total Mean S.D.	F ratio
1. Select, utilize and maintain agricultural program advisory committee	8.88 2.05	9.94 1.43	9.56 1.50	9.08 1.85	9.22 1.86	1.67
2. Determine and develop facilities essential to the program	9.29 1.87	8.77 2.41	8.83 2.50	9.46 1.20	9.13 2.02	0.52
3. Develop and analyze agricultural program goals and objectives	9.04 1.88	9.29 1.86	7.89 2.97	8.92 2.25	8.86 2.18	1.55
4. Assist administrators in developing and maintaining agricultural program	8.65 2.54	8.88 3.00	8.61 2.75	8.39 2.82	8.65 2.66	0.09
5. Promote and conduct adult or technical in-service agricultural programs	8.12 2.60	8.82 2.21	7.56 2.81	6.69 3.40	7.95 2.72	1.74
6. Utilize local and statewide guidelines and needs assessments for program planning	6.92 2.93	7.82 2.60	6.61 3.01	6.62 2.93	6.98 2.88	0.66
7. Conduct community surveys to improve instruction or plan programs	7.12 2.82	7.12 2.85	6.78 2.92	6.54 3.21	6.98 2.86	0.18
8. Conduct and interpret a task (competency) or activity analysis of agricultural occupations	7.02 2.83	7.00 2.89	6.83 2.73	6.54 2.96	6.92 2.80	0.11

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[a] Group 1 = Agricultural production instructors.

[b] Group 2 = Agricultural supply and service instructors

[c] Group 3 = Agricultural power and machinery mechanics instructors.

[d] Group 4 = Horticulture instructors.

Table 34 (Continued)

D. PROGRAM PLANNING Competency	Group 1 Mean S.D.	Group 2 Mean S.D.	Group 3 Mean S.D.	Group 4 Mean S.D.	Total Mean S.D.	F ratio
9. Utilize local and statewide policy in securing reimbursement for occupational programs	6.61 3.24	7.12 3.53	7.11 3.32	4.46 2.63	6.51 3.30	2.16
10. Interpret the socioeconomic and power structure of the community	6.37 3.11	6.18 2.98	5.89 3.10	6.15 3.34	6.22 3.08	0.11

Table 35. Means, standard deviations and F ratios for importance ratings of professional education competencies (Coordination--on-the-Job) needed to perform as an area school instructor, as perceived among participants grouped by agricultural program assigned

E. COORDINATION--ON-THE-JOB Competency	Group 1[a] Mean S.D.	Group 2[b] Mean S.D.	Group 3[c] Mean S.D.	Group 4[d] Mean S.D.	Total Mean S.D.	F ratio
1. Maintain liaison with agriculture employment agencies and potential employers	9.63 1.50	10.00 1.70	9.35 1.77	9.77 1.36	9.67 1.55	0.51
2. Evaluate objectively student performance on-the-job	9.43 1.76	9.94 1.68	8.12 3.00	8.92 2.81	9.22 2.21	2.33
3. Evaluate on-the-job experience programs and experience centers	9.08 2.41	10.18 1.38	7.82 3.24	9.62 1.81	9.13 2.45	3.01* 2 > 3
4. Supervise students while placed on-the-job	9.45 2.16	9.88 2.29	7.41 3.18	8.31 3.23	9.01 2.65	3.72* 1,2 > 3
5. Plan and coordinate on-the-job experience programs	8.86 2.62	9.53 1.70	7.88 3.22	7.77 3.09	8.66 2.70	1.65
6. Develop on-the-job train-plans for students	8.33 2.94	9.41 2.24	7.41 3.36	7.46 3.28	8.24 2.99	1.65
7. Select on-the-job training centers	8.31 2.84	9.12 2.52	7.71 2.44	7.54 3.43	8.24 2.81	1.04
8. Secure on-the-job training stations for students	8.31 3.14	9.12 3.08	7.71 3.14	7.31 3.04	8.21 3.12	1.01
9. Conduct a training station development program	8.62 2.99	7.94 2.63	6.71 2.73	5.77 3.22	6.85 2.94	1.40

[a] Group 1 = Agricultural production instructors.

[b] Group 2 = Agricultural supply and service instructors.

[c] Group 3 = Agricultural power and machinery mechanics instructors.

[d] Group 4 = Horticulture instructors.

[*] Significant at the .05 level of probability.

Table 36. Means, standard deviations and F ratios for importance ratings of professional education competencies (Area School-Community Relations) needed to perform as an area school instructor, as perceived among participants grouped by agricultural program assigned

F. AREA SCHOOL - COMMUNITY RELATIONS Competency	Group 1[a]		Group 2[b]		Group 3[c]		Group 4[d]		Total		F ratio
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	
1. Work cooperatively with individuals, business and industry in the community	9.98	1.27	10.00	1.50	9.56	1.85	9.92	1.12	9.90	1.40	0.44
2. Develop good working relationships with area school personnel and staff	9.61	1.35	9.65	1.46	9.89	1.32	8.85	2.41	9.57	1.55	1.24
3. Communicate ideas and concepts to other instructors, area school personnel, and community members	8.78	2.02	9.29	2.11	9.22	1.26	8.31	2.02	8.89	1.92	0.88
4. Articulate agricultural program with other agricultural education institutions or programs, such as, vocational agriculture, cooperative extension, and university	9.31	2.25	9.24	2.25	8.33	2.70	7.62	3.15	8.89	2.51	2.04
5. Participate in community organizations and activities	8.80	1.98	9.41	1.28	8.28	2.42	7.77	2.31	8.67	2.05	1.92
6. Obtain information and materials for update and news releases	8.69	2.16	8.94	1.85	8.33	2.61	8.00	3.32	8.58	2.36	0.49
7. Participate in local staff organizations and activities	8.47	1.86	9.35	1.90	8.56	2.38	7.54	2.67	8.52	2.12	1.87
8. Work with faculty members on area school committees	8.02	2.23	8.94	1.75	8.50	2.23	8.15	2.48	8.29	2.18	0.82

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[a] Group 1 = Agricultural production instructors.

[b] Group 2 = Agricultural supply and service instructors.

[c] Group 3 = Agricultural power and machinery mechanics instructors.

[d] Group 4 = Horticultural instructors.

Table 36 (Continued)

F. AREA SCHOOL - COMMUNITY RELATIONS Competency	Group 1 Mean S.D.	Group 2 Mean S.D.	Group 3 Mean S.D.	Group 4 Mean S.D.	Total Mean S.D.	F ratio
9. Cooperate and work with adult education division	8.35 2.39	8.47 2.24	8.33 2.74	6.50 3.50	8.14 2.62	1.84
10. Cooperate and work with instructors in transfer education	8.10 2.28	7.59 2.50	8.33 2.28	8.00 2.48	8.04 2.32	0.32
11. Understand and interpret the community problems and culture	8.00 2.81	8.18 1.94	8.06 2.78	6.62 2.99	7.86 2.70	1.08
12. Assist in development of the total area school program	7.39 2.90	8.24 2.33	7.89 2.76	6.85 3.05	7.56 2.80	0.75

Table 37. Means, standard deviations and F ratios for importance ratings of professional education competencies (Student Activities) needed to perform as an area school instructor, as perceived among participants grouped by agricultural program assigned

G. STUDENT ACTIVITIES Competencies	Group 1[a] Mean S.D.	Group 2[b] Mean S.D.	Group 3[c] Mean S.D.	Group 4[d] Mean S.D.	Total Mean S.D.	F ratio
1. Develop and maintain rapport with students	10.29 1.12	10.59 0.62	9.67 1.50	10.08 1.26	10.20 1.17	2.07
2. Recruit and interview students for agricultural programs	9.53 1.85	9.71 2.47	8.89 2.54	8.62 2.43	9.32 2.18	1.02
3. Develop and guide special study topics for students	8.35 2.24	8.82 2.22	8.94 1.83	8.46 2.37	8.56 2.17	0.43
4. Promote, sponsor, and advise student program or department organizations and activities	8.51 1.72	9.29 2.09	7.44 3.15	7.69 2.63	8.34 2.28	2.46
5. Conduct pre-assessment of students' interests, abilities and aptitudes	7.94 2.59	7.65 3.30	8.00 2.68	7.08 3.48	7.78 2.83	0.36
6. Complete and process student records and reports for student personnel services	5.71 3.32	6.00 3.67	7.50 2.92	6.08 3.12	6.14 3.30	1.31

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[a] Group 1 = Agricultural production instructors.

[b] Group 2 = Agricultural supply and service instructors.

[c] Group 3 = Agricultural power and machinery mechanics instructors.

[d] Group 4 = Horticulture instructors.

Table 38. Means, standard deviations and F ratios for importance ratings of professional education competencies (Professional Role) needed to perform as an area school instructor, as perceived among participants grouped by agricultural program assigned

H. PROFESSIONAL ROLE Competency	Group 1[a] Mean S.D.	Group 2[b] Mean S.D.	Group 3[c] Mean S.D.	Group 4[d] Mean S.D.	Total Mean S.D.	F ratio
1. Plan a personal program of continuing professional education	8.82 2.32	9.47 1.70	9.11 2.11	8.00 3.34	8.88 2.35	1.04
2. Participate in professional organizations related to educational and technical agriculture areas	8.49 2.39	9.77 1.60	8.61 2.50	8.39 2.43	8.72 2.32	1.44
3. Use information contained in professional journals for personal development and improvement of instruction	8.47 2.30	8.77 2.68	8.33 2.09	9.39 1.50	8.62 2.24	0.70
4. Adapt your appearance and apparel to acceptable standards for teachers	8.39 2.46	9.53 1.28	9.00 1.82	7.08 3.10	8.53 2.36	3.15* 2,3 > 4
5. Interpret the legal responsibilties and liabilities of a teacher	8.45 2.81	9.18 1.94	8.72 2.82	7.23 3.30	8.46 2.77	1.30
6. Interpret the goals and objectives of agricultural education	8.16 2.83	9.12 1.83	9.28 1.36	7.39 3.20	8.43 2.57	2.02
7. Interpret the philosophy and goals of the area school	8.02 2.82	8.88 2.57	8.50 2.64	7.69 3.28	8.22 2.80	0.61
8. Recognize issues which divide educators	7.84 2.35	8.59 1.62	8.06 2.88	6.39 2.84	7.81 2.46	2.15
9. Interpret the history of vocational, occupational and career education	6.45 3.01	7.00 2.63	7.61 3.17	5.08 2.53	6.57 2.97	2.03

[a] Group 1 = Agricultural production instructors.
[b] Group 2 = Agricultural supply and service instructors.
[c] Group 3 = Agricultural power and machinery mechanics instructors.
[d] Group 4 = Horticulture instructors.
[*] Significant at the .05 level of probability.

Table 39. Means, standard deviations and F ratios for importance ratings of professional education competencies (Guidance and Counseling) needed to perform as an area school instructor, as perceived among participants grouped by agricultural program assigned

I. GUIDANCE AND COUNSELING Competency	Group 1[a] Mean S.D.	Group 2[b] Mean S.D.	Group 3[c] Mean S.D.	Group 4[d] Mean S.D.	Total Mean S.D.	F ratio
1. Inform students of the nature and requirements of specific agricultural occupations	9.55 1.26	9.47 1.97	9.22 1.63	10.23 1.01	9.57 1.46	1.27
2. Identify students in need of counseling or guidance	9.57 1.28	9.65 1.54	9.33 2.09	9.08 2.40	9.47 1.65	0.40
3. Relate to students from different socio-economic backgrounds	9.10 2.00	9.35 2.03	9.22 1.99	9.15 1.28	9.18 1.90	0.08
4. Assist students in securing permanent employment	8.71 2.84	10.53 0.72	8.61 2.57	8.92 2.47	9.04 2.56	2.47
5. Recognize, interpret and utilize student actions and behaviors	9.08 1.51	9.06 1.56	8.56 2.50	8.46 2.57	8.90 1.89	0.62
6. Assist students in entering programs of advanced occupational training or education	8.80 2.07	9.12 1.83	9.17 1.98	7.85 3.00	8.79 2.17	1.14
7. Identify students with special needs and counsel with them in utilizing the learning resource center	8.47 2.32	8.71 1.76	9.39 1.42	9.15 1.28	8.77 1.98	1.14
8. Use counseling techniques to help students solve personal, social, educational problems	8.86 1.85	8.06 3.11	8.22 3.36	9.00 2.68	8.62 2.51	0.67

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[a] Group 1 = Agricultural production instructors.

[b] Group 2 = Agricultural supply and service instructors.

[c] Group 3 = Agricultural power and machinery mechanics instructors.

[d] Group 4 = Horticulture instructors.

Table 39 (Continued)

I. GUIDANCE AND COUNSELING Competency	Group 1 Mean S.D.	Group 2 Mean S.D.	Group 3 Mean S.D.	Group 4 Mean S.D.	Total Mean S.D.	F ratio
9. Assist students in developing appropriate study practices	8.00 2.27	8.41 2.69	8.78 2.21	8.15 2.48	8.24 2.35	0.51
10. Provide special training or assistance to students who are disadvantaged or handicapped	7.98 2.59	8.47 2.21	8.56 2.50	7.31 3.57	8.08 2.65	0.70
11. Develop and maintain a relationship with and use student personnel services	8.06 2.13	8.71 1.53	8.00 2.52	7.08 2.66	8.03 2.21	1.36
12. Design, conduct, interpret, and use follow-up studies of program enrollees and graduates	7.35 3.15	8.59 2.12	7.83 2.48	7.38 3.38	7.66 2.91	0.82
13. Counsel and advise parents	7.31 3.13	6.82 3.11	6.67 2.99	5.85 3.41	6.91 3.13	0.80

Table 40. Means, standard deviations and F ratios for importance ratings of professional education competencies (Job Management) needed to perform as an area school instructor, as perceived among participants grouped by agricultural program assigned

J. JOB MANAGEMENT Competency	Group 1[a] Mean S.D.	Group 2[b] Mean S.D.	Group 3[c] Mean S.D.	Group 4[d] Mean S.D.	Total Mean S.D.	F ratio
1. Develop and implement appropriate safety procedures	9.55 1.54	9.82 2.43	10.06 1.39	10.00 0.91	9.75 1.63	0.56
2. Maintain safe, orderly, clean program facilities and equipment	9.37 2.08	9.76 1.64	10.17 1.34	9.77 0.93	9.64 1.77	0.97
3. Develop and communicate rules, procedures and acceptable standards of student behavior	9.67 1.21	9.71 2.17	9.67 1.37	9.15 1.52	9.61 1.48	0.47
4. Develop and maintain a positive working relationship with the administration	9.61 1.24	9.94 1.30	9.83 1.34	8.69 2.36	9.59 1.48	2.14
5. Purchase appropriate equipment and materials	9.39 1.58	9.41 1.80	9.56 2.09	9.69 2.18	9.46 1.78	0.12
6. Interpret and adhere to area school policy	9.29 1.78	9.53 2.07	9.06 2.07	8.92 2.10	9.24 1.91	0.31
7. Develop a system for filing and records management	9.14 1.98	8.94 2.73	8.78 2.44	8.85 2.41	9.00 2.24	0.15
8. Select and follow procedures in obtaining appropriate reference materials for students and staff	8.84 2.05	9.53 1.62	8.89 2.35	8.54 2.44	8.93 2.09	0.65

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[a] Group 1 = Agricultural production instructors.

[b] Group 2 = Agricultural supply and service instructors.

[c] Group 3 = Agricultural power and machinery mechanics instructors.

[d] Group 4 = Horticulture instructors.

Table 40 (Continued)

J. JOB MANAGEMENT Competency	Group 1 Mean S.D.	Group 2 Mean S.D.	Group 3 Mean S.D.	Group 4 Mean S.D.	Total Mean S.D.	F ratio
9. Maintain necessary reports required by area school administrators, state agencies, and federal programs	8.37 2.66	9.41 1.77	8.72 1.96	6.69 3.43	8.39 2.61	2.98* 1,2,3 > 4
10. Plan and prepare budgets for occupational program	8.00 2.61	8.71 2.93	7.89 3.50	6.62 3.57	7.92 2.99	1.24
11. Use formalized criteria in selection and obtaining equipment, materials, and supplies for instructional purposes	7.74 2.80	8.12 2.52	7.78 3.21	7.23 3.47	7.74 2.89	0.23

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*Significant at the .05 level of probability.

were observed among agricultural program area groups for the following competencies listed by competency number.

B-6. Plan, organize and conduct field trips. Agricultural production, agricultural supply and service, and horticulture instructors indicated this competency was more important in performing instructor responsibilities than did agricultural power and machinery mechanics instructors.

C-7. Formulate a system of grading consistent with the department and area school policy. Although a significant ($P < .05$) F ratio of 3.67 was observed, the Duncan procedure for multiple comparisons did not reveal where these differences occurred.

E-3. Evaluate on-the-job experience programs and experience centers. Agricultural supply and service instructors considered this to be of greater importance in performing area school instructor responsibilities than did agricultural mechanics instructors.

E-4. Supervise students while placed on-the-job. Agricultural production and supply and service instructors considered this competency to be of greater importance than did agricultural mechanics instructors.

H-4. Adapt your appearance and apparel to acceptable standards for teachers. Agricultural supply and service and agricultural mechanics instructors indicated a significantly higher mean rating than did horticulture instructors for this competency.

J-9. Maintain necessary reports required by area school administrators, state agencies, and federal programs. Agricultural production, supply and service and mechanics instructors indicated a significantly higher importance rating for this competency than did horticulture instructors.

Table 41 and Table 42 present the comparative analyses of competency group means for importance ratings of competencies needed in performing their job. The competency group means were obtained by calculating a competency group mean rating for each participant, adding each participant's competency group mean rating and then dividing by the number of participants. No significant differences were observed for any of the professional education competency groups when participants were compared by staff title. Significant differences were observed among agricultural program area groups for the following professional education competency group: Coordination--on-the-job. The competency groups are listed by rank according to the total mean calculated.

Importance Ratings of Professional Education Competencies for Inclusion in an In-service Education Program

Participants of this study were requested to rate the 105 professional education competencies as to how they perceived the importance of each competency to be included in a professional in-service education program for area school instructors of agriculture. Participants' response alternatives and scoring procedures for Part III of the survey instrument were discussed previously in this report. Group comparisons were made for each competency when participants were grouped by their staff title and by their agricultural program assigned. The analysis of each competency will be presented by professional competency groups.

Table 41. Means, standard deviations and F ratios for importance ratings of grouped professional education competencies needed to perform as an area school instructor, as perceived by participants grouped by staff title

Professional education competency group	Group 1[a] Mean S.D.	Group 2[b] Mean S.D.	Group 3[c] Mean S.D.	Total Mean S.D.	F ratio
1. Instructional activities - execution	8.97 1.21	9.18 0.99	9.48 1.01	9.08 1.15	1.20
2. Job management	8.95 1.32	9.16 1.38	9.22 1.18	9.03 1.31	0.40
3. Coordination-on-the-job	8.40 1.70	9.03 2.26	9.41 1.26	8.67 1.80	2.58
4. Area school - community relations	8.51 1.46	8.69 1.81	8.94 1.30	8.61 1.52	0.52
5. Instructional activities - evaluation	8.34 1.58	8.94 1.22	9.11 1.15	8.57 1.49	2.52
6. Guidance and counseling	8.55 1.34	8.56 1.46	8.62 1.09	8.56 1.33	0.01
7. Instructional activities - planning	8.44 1.31	8.33 1.65	8.61 1.40	8.44 1.39	0.19
8. Student activities	8.26 1.29	8.65 1.82	8.93 1.09	8.44 1.41	1.76
9. Professional role	8.13 1.76	8.43 1.78	8.67 1.14	8.27 1.69	0.78
10. Program planning	7.65 1.57	7.85 1.80	8.15 1.34	7.76 1.59	0.62

[a] Group 1 = Area school instructors.

[b] Group 2 = Area school instructors--program coordinators.

[c] Group 3 = Area school department heads.

Table 42. Means, standard deviations and F ratios for importance ratings of grouped professional education competencies needed to perform as an area school instructor, as perceived by participants grouped by agricultural program assigned

Professional education competency group	Group 1[a] Mean S.D.	Group 2[b] Mean S.D.	Group 3[c] Mean S.D.	Group 4[d] Mean S.D.	Total Mean S.D.	F ratio
1. Job management	9.00 1.26	9.35 1.54	9.13 1.34	8.56 1.21	9.02 1.32	0.93
2. Instructional activities - execution	8.88 1.18	9.49 0.95	8.82 1.34	9.13 0.91	9.01 1.15	1.42
3. Area school-community relations	8.62 1.45	8.94 1.37	8.61 1.62	7.90 1.93	8.59 1.54	1.11
4. Coordination-on-the-job	8.69 1.82	9.46 1.51	7.79 1.88	8.05 1.87	8.58 1.84	2.91* 2 > 3,4
5. Guidance and counseling	8.52 1.36	8.84 1.14	8.58 1.58	8.28 1.26	8.56 1.34	0.44
6. Instructional activities - evaluation	8.21 1.49	9.28 1.30	8.53 1.88	8.47 1.00	8.49 1.52	2.17
7. Student activities	8.39 1.31	8.68 1.42	8.41 1.55	8.00 1.79	8.39 1.44	0.54
8. Instructional activities - planning	8.31 1.42	8.44 1.38	8.44 1.61	8.48 1.22	8.38 1.41	0.08
9. Professional role	8.12 1.70	8.88 1.33	8.58 1.80	7.40 2.05	8.23 1.74	2.08
10. Program planning	7.80 1.59	8.09 1.58	7.57 1.86	7.28 1.40	7.74 1.61	0.81

[a] Group 1 = Agricultural production instructors.

[b] Group 2 = Agricultural supply and service instructors.

[c] Group 3 = Agricultural power and machinery mechanics instructors.

[d] Group 4 = Horticulture instructors.

*Significant at the .05 level of probability.

Tables 43 through 52 present the means, standard deviations and F ratios for the in-service education importance ratings of each competency when comparisons were made among participants grouped by their staff title. The competencies are presented by professional competency group and are ranked within each competency group according to the total participant group mean rating. Significant differences were found among the three staff title groups for the following competencies.

A-13. _Develop individualized delivery system for students_. Program coordinators and department heads indicated a significantly higher rating for including this competency in an in-service program than did area school instructors.

E-5. _Develop on-the-job training plans for students_. Program coordinators and department heads indicated a higher in-service education importance rating for this competency than did area school instructors.

Table 43. Means, standard deviations and F ratios for importance ratings of professional education competencies (Instructional Activities - Planning) to be included in an in-service education program, as perceived among participants grouped by staff title

A. INSTRUCTIONAL ACTIVITIES - PLANNING Competency	Group 1[a] Mean S.D.	Group 2[b] Mean S.D.	Group 3[c] Mean S.D.	Total Mean S.D.	F ratio
1. Develop a variety of audio-visual materials for instructional purposes	8.73 2.18	8.68 2.23	9.20 1.15	8.79 2.07	0.35
2. Design and select student learning activities through which students can accomplish stated performance objectives	8.63 2.66	8.18 3.38	9.64 1.28	8.67 2.70	1.28
3. Select appropriate instructional method(s) for learning situation	8.42 2.87	8.18 3.02	9.57 1.28	8.52 2.76	1.23
4. Develop real laboratory experiences as an integral part of the instructional program	8.35 3.29	7.77 3.72	9.50 1.40	8.38 3.22	1.25
5. Select appropriate audio-visual materials for instructional purposes	8.08 2.59	8.45 2.30	9.50 1.22	8.35 2.43	2.06
6. Write measurable performance objectives for program and instructional units	7.94 2.91	7.95 3.08	9.21 2.15	8.11 2.87	1.19
7. Develop simulated laboratory experiences as an integral part of the instructional program	8.14 3.01	7.73 3.27	8.43 1.95	8.09 2.93	0.27
8. Develop and write course outlines	7.89 3.19	8.14 3.74	9.07 2.67	8.09 3.25	0.78
9. Develop and implement individualized instructional materials	7.73 2.79	7.09 3.13	8.40 2.50	7.69 2.82	0.98

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[a] Group 1 = Area school instructors.

[b] Group 2 = Area school instructors--program coordinators.

[c] Group 3 = Area school department heads.

Table 43 (Continued)

A. INSTRUCTIONAL ACTIVITIES - PLANNING Competency	Group 1 Mean S.D.	Group 2 Mean S.D.	Group 3 Mean S.D.	Total Mean S.D.	F ratio
10. Select appropriate textbooks and instructional resource(s) for learning situation	7.30 3.31	8.27 2.96	7.43 2.93	7.51 3.19	0.79
11. Plan, provide and schedule the utilization of facilties and equipment for maximum student benefit	7.44 3.09	7.27 3.27	7.50 3.25	7.41 3.12	0.03
12. Reproduce instructional materials with a variety of duplicating equipment	7.25 3.67	7.06 3.74	7.20 2.48	7.20 3.52	0.03
13. Develop individualized delivery system for students	6.41 3.00	8.00 2.27	8.33 2.53	7.00 2.90	4.66** 2,3 > 1
14. Organize and break down agricultural occupation(s) into component parts for instructional and guidance purposes	6.41 3.30	6.77 3.07	7.40 2.64	6.62 3.16	0.64
15. Build models and displays for instructional purposes	6.42 3.35	5.86 3.09	7.57 2.17	6.46 3.18	1.25

**Significant at the .01 level of probability.

Table 44. Means, standard deviations and F ratios for importance ratings of professional education competencies (Instructional Activities - Execution) to be included in an in-service education program, as perceived among participants grouped by staff title

B. INSTRUCTIONAL ACTIVITIES - EXECUTION Competency	Group 1[a] Mean S.D.	Group 2[b] Mean S.D.	Group 3[c] Mean S.D.	Total Mean S.D.	F ratio
1. Employ a variety of individual and group motivational techniques	8.96 2.19	8.73 3.21	9.60 1.50	9.00 2.35	0.64
2. Utilize a variety of instructional methods in program delivery	8.66 2.50	8.64 2.72	9.64 1.15	8.79 2.42	1.01
3. Employ a variety of instructional resources in program delivery	8.65 2.43	8.64 2.57	8.86 1.96	8.67 2.39	0.05
4. Utilize a student-centered teaching style	8.14 2.64	8.23 3.12	8.93 1.54	8.26 2.63	0.52
5. Maintain effective learning environment	8.04 2.89	8.41 3.32	8.43 2.85	8.17 2.95	0.19
6. Develop interest approaches for each instructional period	7.99 2.66	8.32 2.97	7.93 2.76	8.05 2.72	0.14
7. Develop and utilize the learning resource center in instructional activities	8.04 2.72	7.27 3.44	8.71 2.13	7.97 2.82	1.18
8. Function as a director of learning process	7.74 2.61	7.41 3.35	8.07 2.70	7.72 2.75	0.25
9. Plan, organize and conduct field trips	7.41 3.33	7.36 3.68	8.78 1.80	7.58 3.26	1.10
10. Summarize daily and unit instruction	7.11 3.09	7.68 3.33	7.47 2.90	7.28 3.09	0.31
11. Relate personal experiences and events to agricultural occupational instruction	6.63 3.45	6.86 4.14	7.14 3.18	6.75 3.54	0.14
12. Write a daily instructional plan	6.14 3.43	6.77 4.03	7.07 2.73	6.39 3.47	0.58

[a] Group 1 = Area school instructors.

[b] Group 2 = Area school instructors--program coordinators.

[c] Group 3 = Area school department heads.

Table 45. Means, standard deviations and F ratios for importance ratings of professional education competencies (Instructional Activities - Evaluation) to be included in an in-service education program, as perceived among participants grouped by staff title

C. INSTRUCTIONAL ACTIVITIES - EVALUATION	Group 1[a]		Group 2[b]		Group 3[c]		Total		F ratio
Competency	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	
1. Evaluate own techniques and methods of teaching for effectiveness according to standards of agricultural occupations and based on student needs	8.54	2.55	9.41	2.75	9.28	1.27	8.82	2.48	1.32
2. Assist students in evaluating their own progress	8.57	2.42	9.14	2.93	8.71	2.13	8.71	2.48	0.43
3. Develop tests and criteria for measuring student performance and progress	8.07	2.76	7.91	3.74	9.33	2.29	8.22	2.94	1.30
4. Evaluate the overall effectiveness of program in terms of program objectives	7.87	3.10	7.91	3.31	9.07	2.76	8.04	3.10	0.90
5. Evaluate field trips and laboratory activities	7.79	2.79	7.64	3.36	8.78	2.08	7.89	2.83	0.83
6. Formulate a system of grading consistent with the department and area school policy	7.10	3.35	7.73	3.44	8.40	2.92	7.41	3.32	1.08
7. Maintain student performance or progress reports and competency records	6.77	3.43	7.50	3.50	8.14	3.06	7.10	3.41	1.14
8. Evaluate performance of other instructional staff	4.67	3.04	6.36	3.14	5.14	3.80	5.08	3.21	2.39

[a] Group 1 = Area school instructors.

[b] Group 2 = Area school instructors--program coordinators.

[c] Group 3 = Area school department heads.

Table 46. Means, standard deviations and F ratios for importance ratings of professional education competencies (Program Planning) to be included in an in-service education program, as perceived among participants grouped by staff title

D. PROGRAM PLANNING Competency	Group 1[a] Mean S.D.	Group 2[b] Mean S.D.	Group 3[c] Mean S.D.	Total Mean S.D.	F ratio
1. Develop and analyze agricultural program goals and objectives	8.11 2.73	9.95 1.40	8.78 2.12	8.38 2.44	1.22
2. Determine and develop facilities essential to the program	8.14 2.85	8.73 2.83	8.57 2.06	8.32 2.74	0.44
3. Select, utilize and maintain agricultural program advisory committee	7.89 2.88	7.82 3.68	[illegible].21 3.17	7.92 3.07	0.08
4. Assist administrators in developing and maintaining agricultural program	7.93 3.08	7.27 3.47	8.07 3.45	7.81 3.19	0.40
5. Conduct and interpret a task (competency) or activity analysis of agricultural occupations	6.79 3.03	7.67 2.08	8.27 2.34	7.17 2.81	2.17
6. Promote and conduct adult or technical in-service agricultural programs	7.13 3.26	6.86 3.56	7.28 3.17	7.09 3.28	0.08
7. Utilize local and statewide policy in securing reimbursement for occupational programs	6.61 3.06	7.09 2.34	7.57 3.08	6.84 2.95	0.57
8. Utilize local and statewide guidelines and needs assessments for program planning	6.34 3.06	7.41 2.34	7.64 3.08	6.74 2.95	1.88
9. Conduct community surveys to improve instruction or plan programs	6.24 3.14	7.18 2.99	7.93 3.02	6.66 3.13	2.13
10. Interpret the socio-economic and power structure of the community	5.77 3.01	6.23 2.98	6.36 2.84	5.94 2.97	1.35

[a] Group 1 = Area school instructors.

[b] Group 2 = Area school instructors--program coordinators.

[c] Group 3 = Area school department heads.

Table 47. Means, standard deviations and F ratios for importance ratings of professional education competencies (Coordination--on-the-Job) to be included in an in-service education program, as perceived among participants grouped by staff title

E. COORDINATION--ON-THE-JOB Competency	Group 1[a] Mean S.D.	Group 2[b] Mean S.D.	Group 3[c] Mean S.D.	Total Mean S.D.	F ratio
1. Evaluate objectively student performance on-the-job	8.28 2.75	8.54 3.45	8.86 2.41	8.41 2.85	0.27
2. Evaluate on-the-job experience programs and experience centers	7.66 3.09	8.32 3.32	9.28 2.37	8.01 3.08	1.79
3. Plan and coordinate on-the-job experience programs	7.51 2.82	7.86 3.47	9.36 2.06	7.82 2.92	2.41
4. Maintain liaison with agriculture employment agencies and potential employers	7.48 3.14	7.77 3.39	8.93 2.33	7.73 3.12	1.28
5. Develop on-the-job training plans for students	6.97 3.23	9.04 2.59	9.00 2.32	7.66 3.14	5.58** 2,3 > 1
6. Supervise students while placed on-the-job	7.13 3.33	8.64 2.98	8.50 3.21	7.62 3.29	2.41
7. Conduct a training station development program	7.00 2.74	7.54 2.72	8.78 1.93	7.35 2.69	2.74
8. Select on-the-job training centers	6.86 3.15	7.91 3.36	7.64 3.27	7.18 3.21	1.07
9. Secure on-the-job training stations for students	6.86 3.33	7.41 3.46	7.14 3.35	7.01 3.33	0.24

[a] Group 1 = Area school instructors.

[b] Group 2 = Area school instructors--program coordinators.

[c] Group 3 = Area school department heads.

** Significant at the .01 level of probability.

Table 48. Means, standard deviations and F ratios for importance ratings of professional education competencies (Area School-Community Relations) to be included in an in-service education program, as perceived among participants grouped by staff title

F. AREA SCHOOL - COMMUNITY RELATIONS Competency	Group 1[a] Mean S.D.	Group 2[b] Mean S.D.	Group 3[c] Mean S.D.	Total Mean S.D.	F ratio
1. Articulate agricultural program with other agricultural education institutions or programs, such as, vocational agriculture, cooperative extension, and university.	7.71 3.02	9.14 2.38	9.00 2.57	8.18 2.89	2.76
2. Work cooperatively with individuals, business and industry in the community	7.46 3.15	7.86 3.52	8.07 2.70	7.62 3.16	0.30
3. Obtain information and materials for update and news releases	7.41 3.16	7.77 2.79	7.64 3.00	7.52 3.04	0.13
4. Communicate ideas and concepts to other instructors, area school personnel, and community members	7.14 3.06	7.73 2.68	7.71 2.89	7.34 2.95	0.45
5. Develop good working relationships with area school personnel and staff	7.06 3.42	7.27 3.44	7.14 3.13	7.34 3.36	0.45
6. Assist in the development of the total area school program	6.74 3.28	6.86 3.06	9.14 1.32	7.08 3.13	3.69
7. Cooperate and work with instructors in transfer education	6.86 3.05	6.64 2.79	7.57 1.95	6.91 2.87	0.48
8. Cooperate and work with adult education division	6.39 3.13	7.45 2.81	8.07 1.98	6.84 2.98	2.52
9. Understand and interpret the community problems and culture	6.86 2.99	6.68 3.12	6.71 3.02	6.80 2.99	0.04

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[a] Group 1 = Area school instructors.

[b] Group 2 = Area school instructors--program coordinators.

[c] Group 3 = Area school department heads.

Table 48 (Continued)

F. AREA SCHOOL - COMMUNITY RELATIONS Competency	Group 1 Mean S.D.	Group 2 Mean S.D.	Group 3 Mean S.D.	Total Mean S.D.	F ratio
10. Participate in local staff organizations and activities	6.31 3.09	6.77 3.38	6.57 2.41	6.44 3.05	0.20
11. Work with faculty members on area school committees	6.31 3.31	6.77 3.22	6.00 3.06	6.37 3.24	0.27
12. Participate in community organizations and activities	5.97 3.27	6.54 3.52	6.28 3.32	6.13 3.30	0.27

Table 49. Means, standard deviations and F ratios for importance ratings of professional education competencies (Student Activities) to be included in an in-service education program, as perceived among participants grouped by staff title

G. STUDENT ACTIVITIES Competency	Group 1[a] Mean S.D.	Group 2[b] Mean S.D.	Group 3[c] Mean S.D.	Total Mean S.D.	F ratio
1. Recruit and interview students for agricultural programs	7.62 3.17	8.23 3.31	8.21 3.64	7.83 3.24	0.40
2. Develop and guide special study topics for students	7.46 3.04	8.18 2.54	8.71 2.13	7.78 2.85	1.40
3. Develop and maintain rapport with students	7.49 3.47	8.41 3.38	8.00 3.49	7.75 3.43	0.63
4. Conduct pre-assessment of students' interests, abilities and aptitudes	7.00 3.25	7.73 2.96	7.71 3.15	7.25 3.17	0.61
5. Promote, sponsor, and advise student program or department organizations and activities	7.00 3.19	7.23 3.01	8.36 1.95	7.23 3.03	1.17
6. Complete and process student records and reports for student personnel services	5.45 3.37	6.41 3.44	5.86 2.93	5.70 3.33	0.71

[a] Group 1 = Area school instructors.

[b] Group 2 = Area school instructors--program coordinators.

[c] Group 3 = Area school department heads.

Table 50. Means, standard deviations and F ratios for importance ratings of professional education competencies (Professional Role) to be included in an in-service education program, as perceived among participants grouped by staff title

H. PROFESSIONAL ROLE Competency	Group 1[a] Mean S.D.	Group 2[b] Mean S.D.	Group 3[c] Mean S.D.	Total Mean S.D.	F ratio
1. Interpret the legal responsibilities and liabilities of a teacher	8.46 2.53	8.86 2.23	9.00 1.88	8.62 2.38	0.44
2. Interpret the goals and objectives of agricultural education	8.00 2.70	7.45 3.23	9.43 1.28	8.08 2.72	2.39
3. Interpret the philosophy and goals of the area school	7.60 2.91	7.86 2.80	8.93 2.06	7.83 2.80	1.32
4. Plan a personal program of continuing professional education	7.20 3.11	7.64 3.23	8.43 2.85	7.45 3.10	0.96
5. Use information contained in professional journals for personal development and improvement of instruction	6.76 3.25	7.45 3.04	8.43 2.38	7.12 3.13	1.85
6. Participate in professional organizations related to educational and technical agriculture areas	6.83 3.26	7.59 3.03	7.36 3.25	7.06 3.20	0.54
7. Recognize issues which divide educators	6.99 3.01	6.54 3.08	7.07 2.84	6.91 2.98	0.20
8. Interpret the history of vocational, occupational and career education	5.73 3.17	5.72 2.98	7.86 2.85	6.01 3.15	2.88
9. Adapt your appearance and apparel to acceptable standards for teachers	5.24 3.25	6.27 3.68	4.28 3.41	5.33 3.38	1.56

[a] Group 1 = Area school instructors.

[b] Group 2 = Area school instructors--program coordinators.

[c] Group 3 = Area school department heads.

Table 51. Means, standard deviations and F ratios for importance ratings of professional education competencies (Guidance and Counseling) to be included in an in-service education program, as perceived among participants grouped by staff title

I. GUIDANCE AND COUNSELING Competency	Group 1[a] Mean S.D.	Group 2[b] Mean S.D.	Group 3[c] Mean S.D.	Total Mean S.D.	F ratio
1. Identify students in need of counseling or guidance	8.46 2.90	9.45 2.61	9.00 2.08	8.74 2.75	1.18
2. Provide special training or assistance to students who are disadvantaged or handicapped	8.19 2.83	8.73 2.12	9.64 1.22	8.49 2.57	2.04
3. Recognize, interpret and utilize student actions and behaviors	7.94 2.92	8.27 2.66	7.78 2.81	7.99 2.83	0.15
4. Use counseling techniques to help students solve personal, social, educational problems	7.80 3.14	8.14 2.95	8.50 2.47	7.96 3.01	0.36
5. Identify students with special needs and counsel with them in utilizing the learning resource center	7.79 2.85	7.86 3.11	8.42 2.31	7.89 2.82	0.30
6. Relate to students from different socio-economic backgrounds	7.57 3.05	7.41 2.89	8.71 2.20	7.69 2.93	1.02
7. Assist students in entering programs of advanced occupational training or education	7.43 2.89	7.91 3.07	7.93 2.37	7.59 2.85	0.34
8. Inform students of the nature and requirements of specific agricultural occupations	7.34 3.09	8.00 2.91	8.21 2.75	7.59 3.00	0.74
9. Design, conduct, interpret, and use follow-up studies of program enrollees and graduates	7.43 2.99	6.77 2.91	8.93 1.86	7.49 2.90	2.49

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[a] Group 1 = Area school instructors.

[b] Group 2 = Area school instructors--program coordinators.

[c] Group 3 = Area school department heads.

Table 51 (Continued)

I. GUIDANCE AND COUNSELING Competency	Group 1 Mean S.D.	Group 2 Mean S.D.	Group 3 Mean S.D.	Total Mean S.D.	F ratio
10. Assist students in developing appropriate study practices	7.24 3.06	7.59 2.94	7.71 2.04	7.38 2.96	0.22
11. Assist students in securing permanent employment	7.14 3.33	7.36 4.03	8.50 2.56	7.37 3.40	0.93
12. Develop and maintain a relationship with and use student personnel services	6.74 2.97	7.18 3.42	8.64 2.06	7.08 3.01	2.40
13. Counsel and advise parents	6.00 3.36	5.68 3.32	7.14 2.48	6.08 3.25	0.93

Table 52. Means, standard deviations and F ratios for importance ratings of professional education competencies (Job Management) to be included in an in-service education program, as perceived among participants grouped by staff title

J. JOB MANAGEMENT Competency	Group 1[a] Mean S.D.	Group 2[b] Mean S.D.	Group 3[c] Mean S.D.	Total Mean S.D.	F ratio
1. Develop and implement appropriate safety procedures	7.96 3.00	8.54 3.05	9.21 1.76	8.25 2.89	1.26
2. Select and follow procedures in obtaining appropriate reference materials for students and staff	8.14 2.77	7.82 3.10	8.07 2.09	8.07 2.74	0.12
3. Develop a system for filing and records management	8.06 2.94	7.36 3.30	8.43 2.79	7.96 2.99	0.64
4. Develop and communicate rules, procedures and acceptable standards of student behavior	7.41 3.05	7.68 3.68	7.42 3.20	7.47 3.18	0.06
5. Develop and maintain a positive working relationship with the administration	6.96 3.33	7.73 3.01	8.21 2.83	7.28 3.21	1.16
6. Maintain necessary reports required by area school administrators, state agencies, and federal programs	6.88 3.26	7.91 3.26	7.86 3.13	7.23 3.25	1.14
7. Maintain safe, orderly, clean program facilities and equipment	6.84 3.42	7.45 3.83	8.71 2.61	7.22 3.44	1.82
8. Purchase appropriate equipment and materials	7.20 3.09	6.77 3.79	7.43 3.54	7.14 3.28	0.20
9. Interpret and adhere to area school policy	6.90 3.45	7.04 3.60	8.43 3.16	7.13 3.45	1.16

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[a] Group 1 = Area school instructors.

[b] Group 2 = Area school instructors--program coordinators.

[c] Group 3 = Area school department heads.

Table 52 (Continued)

J. JOB MANAGEMENT Competency	Group 1 Mean S.D.	Group 2 Mean S.D.	Group 3 Mean S.D.	Total Mean S.D.	F ratio
10. Use formalized criteria in selection and obtaining equipment, materials, and supplies for instructional purposes	6.90 3.04	6.95 3.24	8.50 2.10	7.12 3.00	1.73
11. Plan and prepare budgets for occupational program	7.06 3.20	7.09 3.54	7.28 3.60	7.09 3.29	0.03

Tables 53 through 62 report the means, standard deviations and F ratios for the in-service education importance ratings of competencies when comparisons were made among participants grouped by their agricultural program area assigned. Competencies are presented by professional competency group and are ranked by the total group mean. Significant differences were observed among the four agricultural program area groups for the following competencies.

A-11. *Plan, provide and schedule the utilization of facilities and equipment for maximum student benefit*. Although a significant ($P < .05$) F ratio was observed, no significant differences in pairs of means were found using the Duncan procedure for multiple comparisons.

D-6. *Promote and conduct adult or technical in-service agricultural programs*. Agricultural production and agricultural mechanics instructors scored this competency higher than did horticulture instructors.

D-9. *Conduct community surveys to improve instruction or plan programs*. Agricultural mechanics instructors indicated a higher rating for this competency than did agricultural production and horticulture instructors.

F-3. *Obtain information and materials for update and news releases*. Horticulture instructors indicated a lower in-service education importance rating for this competency than did instructors in the other agricultural program areas.

F-6. *Assist in the development of the total area school program*. Agricultural mechanics instructors indicated a significantly higher rating for this competency than did agricultural supply and service, and horticulture instructors.

F-9. Cooperate and work with adult education division. Horticulture instructors indicated a significantly lower rating for this competency than instructors in the other three agricultural program areas.

H-8. Interpret the history of vocational, occupational and career division. A significant ($P < .05$) F ratio of 3.84 was observed. However, the Duncan procedure revealed no significant differences.

I-6. Identify students with special needs and counsel with them in utilizing the learning resource center. Agricultural mechanics instructors indicated a higher mean in-service education importance rating for this competency than did instructors in the other agricultural program areas.

J-5. Maintain necessary reports required by area school administrators, state agencies, and federal programs. Agricultural mechanics instructors rated this competency higher than did agricultural production and horticulture instructors.

Table 53. Means, standard deviations and F ratios for importance ratings of professional education competencies (Instructional Activities - Planning) to be included in an in-service education program as perceived among participants grouped by agricultural program assigned

A. INSTRUCTIONAL ACTIVITIES - PLANNING Competency	Group 1[a] Mean S.D.	Group 2[b] Mean S.D.	Group 3[c] Mean S.D.	Group 4[d] Mean S.D.	Total Mean S.D.	F ratio
1. Develop a variety of audio-visual materials for instructional purposes	9.02 1.80	8.24 2.28	8.76 2.22	8.38 3.10	8.75 2.16	0.70
2. Design and select student learning activities through which students can accomplish stated performance objectives	8.14 3.06	9.29 1.96	9.65 1.62	7.85 3.53	8.57 2.81	1.94
3. Select appropriate instructional method(s) for learning situation	8.20 2.68	8.47 3.08	9.41 2.48	8.00 3.74	8.44 2.88	0.86
4. Develop real laboratory experiences as an integral part of the instructional program	7.71 3.43	8.06 3.54	10.12 1.27	8.00 4.06	8.24 3.35	2.32
5. Select appropriate audio-visual materials for instructional purposes	8.06 2.47	8.35 1.93	8.94 2.73	7.77 3.03	8.23 2.50	0.69
6. Develop simulated laboratory experiences as an integral part of the instructional program	7.86 3.21	7.53 2.85	9.18 2.56	8.23 3.00	8.08 3.02	1.04
7. Develop and write course outlines	7.80 3.24	8.53 3.45	8.88 2.76	7.00 3.81	8.01 3.28	1.02

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[a] Group 1 = Agricultural production instructors.

[b] Group 2 = Agricultural supply and service instructors.

[c] Group 3 = Agricultural power and machinery mechanics instructors.

[d] Group 4 = Horticulture instructors.

Table 53 (Continued)

A. INSTRUCTIONAL ACTIVITIES - PLANNING Competency	Group 1 Mean S.D.	Group 2 Mean S.D.	Group 3 Mean S.D.	Group 4 Mean S.D.	Total Mean S.D.	F ratio
8. Write measurable performance objectives for program and instructional units	7.43 3.14	8.82 2.70	9.00 2.09	7.69 2.81	7.99 2.90	1.86
9. Develop and implement individualized instructional materials	7.59 2.99	8.65 1.90	7.06 2.90	7.00 3.03	7.60 2.83	1.19
10. Select appropriate textbooks and instructional resource(s) for learning situation	7.22 3.21	7.59 3.12	8.88 2.96	6.77 3.70	7.52 3.24	1.39
11. Plan, provide and schedule the utilization of facilities and equipment for maximum student benefit	7.27 3.15	6.47 3.12	9.41 1.70	7.15 3.34	7.49 3.11	3.11*
12. Reproduce instructional materials with a variety of duplicating equipment	7.45 3.43	7.06 3.77	7.41 3.87	6.08 4.15	7.19 3.64	0.51
13. Develop individualized delivery system for students	6.73	7.41	6.71	6.15	6.77	0.47
14. Organize and break down agricultural occupation(s) into component parts for instructional and guidance purposes	6.02 3.18	7.00 3.35	7.53 3.43	6.46 2.96	6.52 3.23	1.07
15. Build models and displays for instructional purposes	6.10 3.50	6.29 2.93	7.65 2.94	5.92 3.25	6.39 3.28	1.05

*Significant at the .05 level of probability

Table 54. Means, standard deviations and F ratios for importance ratings of professional education competencies (Instructional Activities - Execution) to be included in an in-service education program, as perceived among participants grouped by agricultural program assigned

B. INSTRUCTIONAL ACTIVITIES - EXECUTION	Group 1[a]		Group 2[b]		Group 3[c]		Group 4[d]		Total		F
Competency	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	ratio
1. Employ a variety of individual and group motivational techniques	8.78	2.19	9.12	3.00	9.18	2.16	9.08	3.01	8.95	2.43	0.17
2. Utilize a variety of instructional methods in program delivery	8.43	2.64	8.88	2.42	9.65	1.46	8.23	3.09	8.70	2.51	1.19
3. Employ a variety of instructional resources in program delivery	8.47	2.42	8.35	2.80	9.47	2.07	8.77	2.35	8.67	2.42	0.83
4. Utilize a student-centered teaching style	8.18	2.56	8.88	3.04	8.06	2.82	7.54	2.79	8.20	2.71	0.63
5. Maintain effective learning environment	8.39	2.42	7.47	3.95	9.19	2.46	7.08	3.55	8.18	2.95	1.68
6. Develop interest approaches for each instructional period	8.18	2.51	8.00	3.18	7.13	3.38	8.69	2.32	8.04	2.77	0.86
7. Develop and utilize the learning resource center in instructional activities	7.67	2.80	7.53	3.[illegible]	8.81	2.48	8.00	3.42	7.88	2.87	0.74
8. Function as a director of learning process	7.59	2.61	7.71	3.14	7.56	3.16	7.92	2.93	7.65	2.80	0.05
9. Plan, organize and conduct field trips	7.84	2.82	7.47	3.92	7.47	3.92	5.62	3.62	7.42	3.38	1.51

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[a] Group 1 = Agricultural production instructors.

[b] Group 2 = Agricultural supply and service instructors.

[c] Group 3 = Agricultural power and machinery mechanics instructors.

[d] Group 4 = Horticulture instructors.

Table 54 (Continued)

B. INSTRUCTIONAL ACTIVITIES - EXECUTION Competency	Group 1 Mean S.D.	Group 2 Mean S.D.	Group 3 Mean S.D.	Group 4 Mean S.D.	Total Mean S.D.	F ratio
10. Summarize daily and unit instruction	7.14 3.09	7.65 3.12	7.38 3.42	6.85 3.34	7.23 3.14	0.18
11. Relate personal experiences and events to agricultural occupational instruction	6.90 3.35	7.00 4.05	7.31 3.61	4.69 3.50	6.68 3.58	1.64
12. Write a daily instructional plan	6.14 3.35	6.24 4.13	7.18 3.73	5.77 3.27	6.29 3.52	0.48

Table 55. Means, standard deviations and F ratios for importance ratings of professional education competencies (Instructional Activities - Evaluation) to be included in an in-service education program, as perceived among participants grouped by agricultural program assigned

C. INSTRUCTIONAL ACTIVITIES - EVALUATION Competency	Group 1[a] Mean S.D.	Group 2[b] Mean S.D.	Group 3[c] Mean S.D.	Group 4[d] Mean S.D.	Total Mean S.D.	F ratio
1. Evaluate own techniques and methods of teaching for effectiveness according to standards of agricultural occupations and based on student needs	8.55 2.62	8.47 3.32	8.75 2.18	9.92 1.32	8.76 2.57	1.07
2. Assist students in evaluating their progress	8.78 2.32	7.65 3.48	8.69 2.52	9.46 1.98	8.65 2.57	1.35
3. Develop tests and criteria for measuring student performance and progress	7.61 3.40	8.71 2.57	8.00 2.63	8.77 2.39	8.03 3.02	0.85
4. Evaluate the overall effectiveness of program in terms of program objectives	7.65 3.17	7.35 3.87	8.81 2.29	8.08 2.90	7.85 3.13	0.73
5. Evaluate field trips and laboratory activities	7.88 2.67	6.35 4.12	8.13 2.50	8.46 2.03	7.73 2.92	1.72
6. Formulate a system of grading consistent with the department and area school policy	6.49 3.61	8.53 3.00	8.06 2.84	7.38 2.87	7.24 3.35	2.05
7. Maintain student performance or progress reports and competency records	6.65 3.59	6.06 3.58	8.06 3.00	7.85 3.05	6.95 3.45	1.36
8. Evaluate performance of other instructional staff	5.14 3.33	5.06 3.19	4.88 2.96	4.85 3.00	5.04 3.16	0.05

[a] Group 1 = Agricultural production instructors.

[b] Group 2 = Agricultural supply and service instructors.

[c] Group 3 = Agricultural power and machinery mechanics instructors.

[d] Group 4 = Horticulture instructors.

Table 56. Means, standard deviations and F ratios for importance ratings of professional education competencies (Program Planning) to be included in an in-service education program, as perceived among participants grouped by agricultural program assigned

D. PROGRAM PLANNING Competency	Group 1[a] Mean S.D.	Group 2[b] Mean S.D.	Group 3[c] Mean S.D.	Group 4[d] Mean S.D.	Total Mean S.D.	F ratio
1. Determine and develop facilities essential to the program	8.12 2.89	8.35 2.80	8.44 2.97	8.69 2.50	8.29 2.80	0.16
2. Develop and analyze agricultural program goals and objectives	8.43 2.47	8.12 2.52	7.94 2.69	8.31 2.72	8.27 2.52	0.17
3. Select, utilize and maintain agricultural program advisory committee	7.43 2.94	8.59 3.59	8.56 2.73	7.54 3.23	7.84 3.07	0.97
4. Assist administrators in developing and maintaining agricultural program	7.88 3.12	7.63 3.52	8.59 2.62	6.38 3.59	7.76 3.19	1.23
5. Conduct and interpret a task (competency) or activity analysis of agricultural occupations	6.81 2.95	6.65 3.22	8.25 1.84	7.15 2.85	7.07 2.84	1.19
6. Promote and conduct adult or technical in-service agricultural programs	7.45 3.14	6.41 3.89	8.06 3.27	5.08 2.60	7.05 3.33	2.62* 1,3 > 4
7. Utilize local and statewide policy in securing reimbursement for occupational programs	6.76 3.31	7.24 3.46	8.06 2.84	5.15 3.34	6.84 3.32	2.00
8. Utilize local and statewide guidelines and needs assessments for program planning	6.59 3.02	6.71 3.02	6.94 3.23	6.62 2.14	6.67 2.91	0.06

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[a] Group 1 = Agricultural production instructors.

[b] Group 2 = Agricultural supply and service instructors.

[c] Group 3 = Agricultural power and machinery mechanics instructors.

[d] Group 4 = Horticulture instructors.

*Significant at the .05 level of probability.

Table 56 (Continued)

D. PROGRAM PLANNING Competency	Group 1 Mean S.D.	Group 2 Mean S.D.	Group 3 Mean S.D.	Group 4 Mean S.D.	Total Mean S.D.	F ratio
9. Conduct community surveys to improve instruction or plan programs	6.24 3.25	6.88 2.91	8.38 2.42	5.15 2.82	6.57 3.11	3.12* 3 > 1,4
10. Interpret the socio-economic and power structure of the community	5.94 3.10	5.47 2.72	6.94 2.82	5.46 3.13	5.96 2.99	0.84

Table 57. Means, standard deviations and F ratios for importance ratings of professional education competencies (Coordination--on-the-Job) to be included in an in-service education program, as perceived among participants grouped by agricultural program assigned

E. COORDINATION--ON-THE-JOB Competency	Group 1[a] Mean S.D.	Group 2[b] Mean S.D.	Group 3[c] Mean S.D.	Group 4[d] Mean S.D.	Total Mean S.D.	F ratio
1. Evaluate objectively student performance on-the-job	8.31 2.85	8.47 3.48	8.24 2.59	8.08 3.28	8.29 2.94	0.05
2. Evaluate on-the-job experience programs and experience centers	7.61 3.10	9.41 2.37	7.12 3.43	7.38 3.66	7.81 3.17	1.91
3. Plan and coordinate on-the-job experience programs	7.47 2.99	8.65 2.69	8.06 2.59	6.08 3.40	7.59 2.98	2.06
4. Supervise students while placed on-the-job	7.63 3.13	7.94 3.82	7.18 3.15	6.85 3.74	7.50 3.31	0.34
5. Maintain liaison with agriculture employment agencies and potential employers	7.51 2.88	7.47 3.89	8.29 2.71	6.46 3.91	7.50 3.19	0.81
6. Develop on-the-job training plans for students	7.53 3.22	8.06 3.49	7.29 3.04	6.62 3.31	7.46 3.22	0.51
7. Conduct a training station development program	7.22 2.90	7.35 2.83	7.88 2.20	6.23 2.68	7.23 2.75	0.90
8. Select on-the-job training centers	6.96 3.14	7.59 3.76	7.53 2.85	6.62 3.48	7.13 3.22	0.35
9. Secure on-the-job training stations for students	6.51 3.35	7.71 3.67	8.00 2.81	6.69 3.50	7.01 3.35	1.15

[a] Group 1 = Agricultural production instructors.

[b] Group 2 = Agricultural supply and service instructors.

[c] Group 3 = Agricultural power and machinery instructors.

[d] Group 4 = Horticulture instructors.

Table 58. Means, standard deviations and F ratios for importance ratings of professional education competencies (Area School-Community Relations) to be included in an in-service education program, as perceived among participants grouped by agricultural program assigned

F. AREA SCHOOL-COMMUNITY RELATIONS Competency	Group 1[a] Mean S.D.	Group 2[b] Mean S.D.	Group 3[c] Mean S.D.	Group 4[d] Mean S.D.	Total Mean S.D.	F ratio
1. Articulate agricultural program with other agricultural education institutions or programs, such as, vocational agriculture, cooperative extension, and university	8.31 2.97	8.53 2.98	7.81 2.71	6.54 2.88	8.02 2.94	1.48
2. Work cooperatively with individuals, business and industry in the community	7.76 3.16	7.82 3.47	7.81 3.02	5.85 3.31	7.52 3.23	1.36
3. Obtain information and materials for update and news releases	7.67 2.90	8.06 3.07	8.31 2.57	4.92 3.30	7.47 3.08	4.00** 1,2,3> 4
4. Communicate ideas and concepts to other instructors, area school personnel, and community members	7.43 3.08	6.94 3.21	7.38 2.73	7.00 2.65	7.27 2.96	0.16
5. Develop good working relationships with area school personnel and staff	7.12 3.45	7.24 3.61	8.25 2.86	5.38 3.25	7.09 3.41	1.76
6. Assist in the development of the total area school program	6.88 3.18	6.24 3.78	8.56 2.31	5.54 2.85	6.86 3.21	2.58* 3 >2,4
7. Understand and interpret the community problems and culture	6.57 3.16	6.94 2.82	8.00 2.19	6.46 3.23	6.86 2.97	1.02

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[a] Group 1 = Agricultural production instructors.

[b] Group 2 = Agricultural supply and service instructors.

[c] Group 3 = Agricultural power and machinery mechanics instructors.

[d] Group 4 = Horticulture instructors.

*Significant at the .05 level of probability.

**Significant at the .01 level of probability.

Table 58 (Continued)

F. AREA SCHOOL-COMMUNITY RELATIONS Competency	Group 1 Mean S.D.	Group 2 Mean S.D.	Group 3 Mean S.D.	Group 4 Mean S.D.	Total Mean S.D.	F ratio
8. Cooperate and work with instructors in transfer education	6.82 3.21	6.76 2.61	7.25 2.59	6.62 2.99	6.85 2.94	0.13
9. Cooperate and work with adult education division	6.84 3.02	6.82 3.15	7.75 2.74	4.58 2.68	6.70 3.04	2.76* 1,2,3> 4
10. Participate in local staff organizations and activities	6.02 3.13	7.18 3.40	7.69 2.73	5.23 2.65	6.40 3.12	2.20
11. Work with faculty members on area school committes	6.04 3.35	7.29 3.22	7.13 3.14	5.69 3.07	6.40 3.26	1.10
12. Participate in community organizations and activities	5.96 3.32	6.41 3.62	7.13 2.80	4.92 3.28	6.09 3.30	1.15

Table 59. Means, standard deviations and F ratios for importance ratings of professional education competencies (Student Activities) to be included in an in-service education program, as perceived among participants grouped by agricultural program assigned

G. STUDENT ACTIVITIES Competency	Group 1[a] Mean S.D.	Group 2[b] Mean S.D.	Group 3[c] Mean S.D.	Group 4[d] Mean S.D.	Total Mean S.D.	F ratio
1. Recruit and interview students for agricultural programs	8.00 3.22	7.82 3.63	8.00 3.22	6.62 2.84	7.78 3.23	0.66
2. Develop and maintain rapport with students	7.40 3.62	8.12 3.79	8.19 2.97	7.69 3.12	7.70 3.45	0.31
3. Develop and guide special study topics for students	7.44 3.18	7.94 2.41	8.06 2.46	7.31 3.47	7.62 2.96	0.29
4. Conduct pre-assessment of students' interests, abilities and aptitudes	7.06 3.06	7.06 3.63	7.88 3.18	6.69 3.25	7.15 3.18	0.38
5. Promote, sponsor, and advise student program or department organizations and activities	7.25 2.94	7.00 3.76	7.56 2.83	5.62 3.18	7.03 3.12	1.13
6. Complete and process student records and reports for student personnel services	5.10 3.31	5.35 3.89	7.19 3.02	6.08 2.81	5.64 3.35	1.70

[a] Group 1 = Agricultural production instructors.

[b] Group 2 = Agricultural supply and service instructors.

[c] Group 3 = Agricultural power and machinery mechanics instructors.

[d] Group 4 = Horticulture instructors.

Table 60. Means, standard deviations and F ratios for importance ratings of professional education competencies (Professional Role) to be included in an in-service education program, as perceived among participants grouped by agricultural program assigned

H. PROFESSIONAL ROLE Competency	Group 1[a] Mean S.D.	Group 2[b] Mean S.D.	Group 3[c] Mean S.D.	Group 4[d] Mean S.D.	Total Mean S.D.	F ratio
1. Interpret the legal responsibilities and liabilities of a teacher	8.31 2.62	8.82 2.07	9.07 1.94	8.77 2.71	8.59 2.43	0.48
2. Interpret the goals and objectives of agricultural education	7.59 3.08	8.41 2.74	9.19 1.60	7.08 2.63	7.94 2.81	1.93
3. Interpret the philosophy and goals of the area school	7.43 3.03	8.00 2.83	9.13 1.50	6.69 2.95	7.72 2.84	2.18
4. Plan a personal program of continuing professional education	7.16 3.15	7.53 3.41	8.31 2.60	6.15 3.24	7.28 3.14	1.20
5. Participate in professional organizations related to educational and technical agriculture areas	6.57 3.19	8.41 2.94	7.44 3.08	5.92 3.52	6.96 3.23	2.01
6. Use information contained in professional journals for personal development and improvement of instruction	6.86 3.19	7.65 2.94	6.94 3.08	6.38 3.52	6.96 3.23	0.41
7. Recognize issues which divide educators	6.76 3.00	7.47 2.74	7.75 2.82	5.77 3.42	6.92 3.00	1.30
8. Interpret the history of vocational, occupational and career education	5.18 3.11	6.82 3.03	7.38 2.87	4.38 2.40	5.74 3.11	3.84*
9. Adapt your appearance and apparel to acceptable standards for teachers	5.12 3.43	5.94 3.40	6.00 3.31	5.00 3.27	5.40 3.36	0.48

[a] Group 1 = Agricultural production instructors.
[b] Group 2 = Agricultural supply and service instructors.
[c] Group 3 = Agricultural power and machinery mechanics instructors.
[d] Group 4 = Horticulture instructors.
* Significant at the .05 level of probability.

Table 61. Means, standard deviations and F ratios for importance ratings of professional education competencies (Guidance and Counseling) to be included in an in-service education program, as perceived among participants grouped by agricultural program assigned

I. GUIDANCE AND COUNSELING Competency	Group 1[a] Mean S.D.	Group 2[b] Mean S.D.	Group 3[c] Mean S.D.	Group 4[d] Mean S.D.	Total Mean S.D.	F ratio
1. Develop and maintain a relationship with and use student personnel services	6.73 2.95	6.94 3.19	8.19 2.69	5.85 3.36	8.89 3.04	1.56
2. Identify students in need of counseling or guidance	8.92 2.52	8.35 3.48	8.63 2.87	8.00 3.44	8.64 2.87	0.42
3. Provide special training or assistance to students who are disadvantaged or handicapped	8.04 2.87	8.29 2.23	9.69 1.25	7.85 3.21	8.37 2.65	1.79
4. Recognize, interpret and utilize student actions and behaviors	7.90 2.72	8.59 2.45	8.69 2.73	6.77 3.94	8.00 2.88	1.36
5. Use counseling techniques to help students solve personal, social, educational problems	7.86 2.93	7.29 3.84	8.50 2.63	8.23 2.98	7.92 3.04	0.48
6. Identify students with special needs and counsel with them in utilizing the learning resource center	7.55 2.83	7.47 3.22	9.56 1.41	7.15 3.24	7.82 2.85	2.58* 3 > 1,2,4
7. Relate to students from different socio-economic backgrounds	7.39 3.00	7.35 3.02	8.38 2.90	7.31 3.20	7.54 2.99	0.50
8. Assist students in entering programs of advanced occupational training or education	7.20 2.93	8.00 3.12	7.88 3.05	7.23 2.89	7.46 2.95	0.44

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[a] Group 1 = Agricultural production instructors.

[b] Group 2 = Agricultural supply and service instructors.

[c] Group 3 = Agricultural power and machinery mechanics instructors.

[d] Group 4 = Horticulture instructors.

*Significant at the .05 level of probability.

Table 61 (Continued)

I. GUIDANCE AND COUNSELING Competency	Group 1 Mean S.D.	Group 2 Mean S.D.	Group 3 Mean S.D.	Group 4 Mean S.D.	Total Mean S.D.	F ratio
9. Inform students of the nature and requirements of specific agricultural occupations	7.33 2.85	8.06 3.25	8.13 2.99	6.23 3.49	7.44 3.05	1.22
10. Design, conduct, interpret, and use follow-up studies of program enrollees and graduates	7.29 3.07	6.88 2.55	8.63 2.50	6.23 3.03	7.29 2.93	1.83
11. Assist students in developing appropriate study practices	7.08 2.92	7.65 3.26	7.75 2.72	7.00 3.51	7.28 3.00	0.32
12. Assist students in securing permanent employment	7.41 3.51	7.71 3.60	7.06 3.15	6.69 3.79	7.17 3.46	0.22
13. Counsel and advise parents	6.16 3.31	5.41 2.85	6.69 3.61	4.77 3.56	5.93 3.32	1.02

Table 62. Means, standard deviations and F ratios for importance ratings of professional education competencies (Job Management) to be included in an in-service education program, as perceived among participants grouped by agricultural program assigned

J. JOB MANAGEMENT Competency	Group 1[a] Mean S.D.	Group 2[b] Mean S.D.	Group 3[c] Mean S.D.	Group 4[d] Mean S.D.	Total Mean S.D.	F ratio
1. Develop and implement appropriate safety procedures	8.06 2.90	8.82 2.92	8.81 2.71	6.77 3.47	8.15 2.98	1.52
2. Select and follow procedures in obtaining appropriate reference materials for students and staff	7.55 2.98	8.65 2.69	9.13 2.33	7.46 2.96	8.00 2.86	1.71
3. Develop a system for filing and records management	7.78 3.08	8.76 1.89	8.31 2.87	6.31 3.90	7.84 3.04	1.81
4. Develop and communicate rules, procedures and acceptable standards of student behavior	7.12 3.15	8.59 3.28	7.81 3.21	6.31 3.28	7.39 3.22	1.50
5. Maintain necessary reports required by area school administrators, state agencies, and federal programs	6.59 3.48	8.24 3.05	8.75 1.95	5.83 2.98	7.16 3.25	3.30* 3 > 1,4
6. Develop and maintain a positive working relationship with the administration	6.92 3.30	7.53 3.28	7.88 3.07	6.31 3.20	7.11 3.23	0.71
7. Plan and prepare budgets for occupational program	6.67 3.20	7.94 2.61	7.69 3.72	6.54 3.78	7.05 3.28	0.94
8. Purchase appropriate equipment and materials	7.14 3.12	7.59 3.37	7.69 3.26	5.00 3.34	7.02 3.28	2.14
9. Interpret and adhere to area school policy	6.53 3.58	7.29 3.64	8.81 2.07	6.00 3.39	6.98 3.43	2.30

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[a] Group 1 = Agricultural production instructors.
[b] Group 2 = Agricultural supply and service instructors.
[c] Group 3 = Agricultural power and machinery mechanics instructors.
[d] Group 4 = Horticulture instructor.
* Significant at the .05 level of probability.

Table 62 (Continued)

J. JOB MANAGEMENT Competency	Group 1 Mean S.D.	Group 2 Mean S.D.	Group 3 Mean S.D.	Group 4 Mean S.D.	Total Mean S.D.	F ratio
10. Maintain safe, orderly, clean program facilities and equipment	6.86 3.40	7.41 3.84	7.94 3.43	5.31 3.22	6.93 3.50	1.52
11. Use formalized criteria in selection and obtaining equipment, materials, and supplies for instructional purposes	6.80 3.10	7.24 2.91	7.38 3.14	6.23 3.30	6.89 3.07	0.41

Table 63 and Table 64 reports the comparative analyses of competency group means for importance ratings of competencies to be included in an in-service education program. These competency group means were obtained by calculating a comptency group mean rating for each participant, adding each participant's competency group mean rating and then dividing by the number of participants. There were no significant differences observed for any of the professional education competency groups when compared by staff title or by agricultural program area assigned. The competency groups are listed by rank according to the total mean calculated.

Table 63. Means, standard deviations and F ratios for importance ratings of grouped professional education competencies to be included in an in-service education program, as perceived by participants grouped by staff title

Professional education competency group	Group 1[a] Mean S.D.	Group 2[b] Mean S.D.	Group 3[c] Mean S.D.	Total Mean S.D.	F ratio
1. Instructional activities - execution	7.81 2.05	7.86 2.64	8.41 1.77	7.90 2.14	0.46
2. Instructional activities - planning	7.68 1.83	7.69 1.79	8.56 1.22	7.80 1.77	1.51
3. Instructional activities - evaluation	7.42 1.94	7.95 2.25	8.39 1.94	7.66 2.02	1.65
4. Coordination-on-the-job	7.30 2.29	8.12 2.69	8.61 2.01	7.64 2.37	2.38
5. Guidance and counseling	7.47 2.18	7.72 2.11	8.40 1.77	7.64 2.12	1.14
6. Job management	7.32 2.44	7.49 2.74	8.14 2.11	7.47 2.46	0.64
7. Program planning	7.13 1.97	7.68 1.60	7.88 1.70	7.34 1.87	1.36
8. Student activities	7.00 2.32	7.70 2.56	7.81 2.09	7.26 2.35	1.17
9. Professional role	6.93 1.90	7.27 2.34	7.86 1.26	7.12 1.94	1.43
10. Area school - community relations	6.88 2.41	7.29 2.62	7.49 1.71	7.05 2.37	0.53

[a] Group 1 = Area school instructors.

[b] Group 2 = Area school instructors--program coordinators.

[c] Group 3 = Area school department heads.

Table 64. Means, standard deviations and F ratios for importance ratings of grouped professional education competencies to be included in an in-service education program, as perceived by participants grouped by agricultural program assigned

Professional education competency group	Group 1[a] Mean S.D.	Group 2[b] Mean S.D.	Group 3[c] Mean S.D.	Group 4[d] Mean S.D.	Total Mean S.D.	F ratio
1. Instructional activities - execution	7.81 2.05	7.86 2.63	8.28 2.29	7.35 1.97	7.83 2.17	0.43
2. Instructional activities - planning	7.51 1.82	7.85 1.46	8.57 1.45	7.23 2.27	7.72 1.80	1.90
3. Instructional activities - evaluation	7.34 2.02	7.27 2.55	7.92 1.98	8.10 1.39	7.53 2.04	0.75
4. Guidance and counseling	7.43 2.16	7.54 2.24	8.29 1.90	6.87 2.12	7.52 2.14	1.13
5. Coordination-on-the-job	7.42 2.42	8.07 2.55	7.73 2.11	6.78 2.71	7.50 2.42	0.76
6. Job management	7.09 2.59	8.00 2.24	8.20 2.22	6.23 2.38	7.34 2.49	2.06
7. Program planning	7.23 1.92	7.34 2.17	8.05 1.57	6.55 1.62	7.29 1.89	1.57
8. Student activities	7.04 2.54	7.22 2.45	7.81 2.25	6.67 2.07	7.15 2.41	0.61
9. Professional role	6.78 2.10	7.67 1.86	7.75 1.62	6.24 1.69	7.02 1.98	2.31
10. Area school-community relations	6.96 2.52	7.19 2.64	7.56 1.97	5.82 2.10	6.98 2.43	1.52

[a] Group 1 = Agricultural production instructors.

[b] Group 2 = Agricultural supply and service instructors.

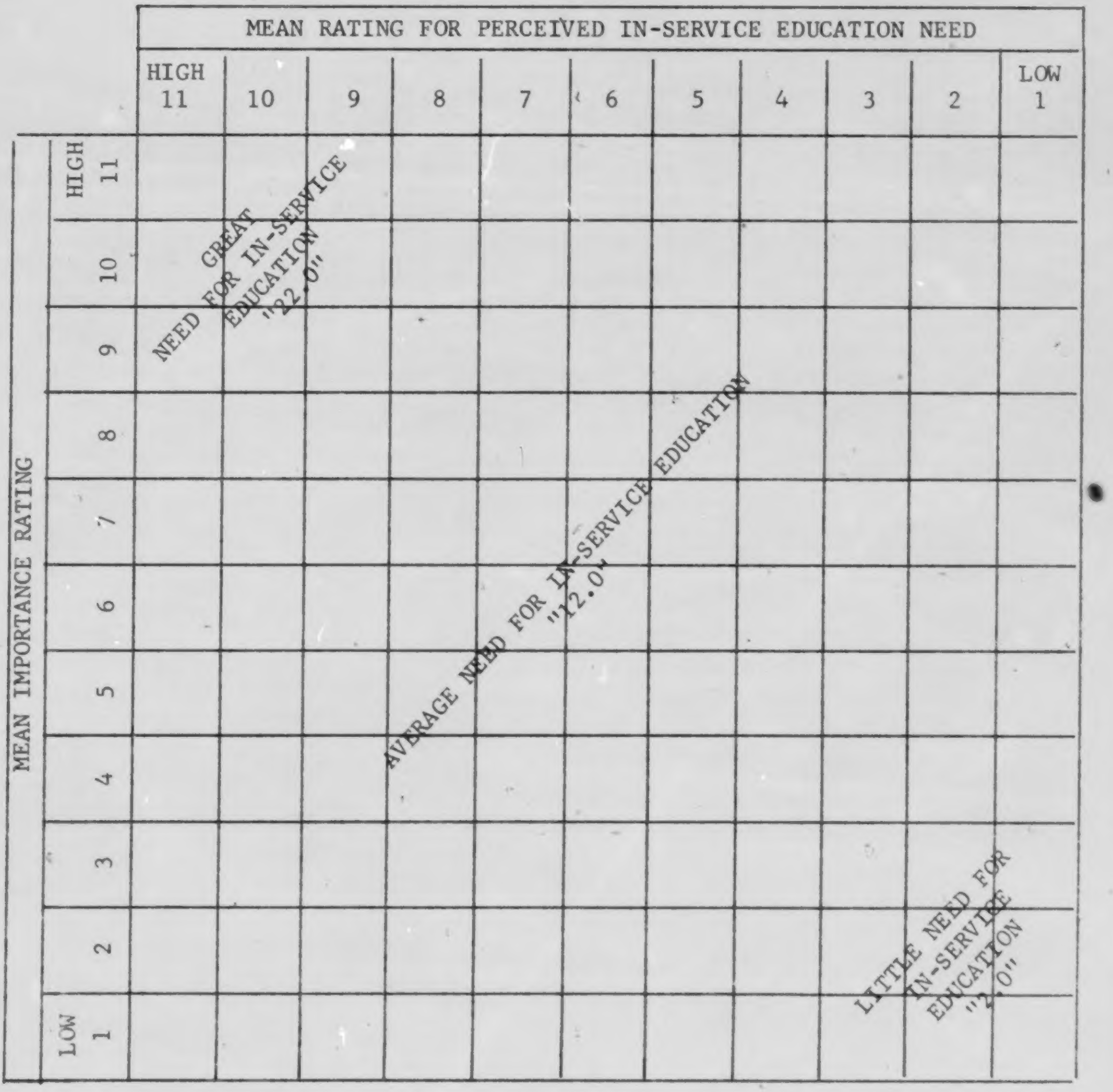
[c] Group 3 = Agricultural power and machinery mechanics instructors.

[d] Group 4 = Horticulture instructors.

In-Service Need Indicator of Professional Education Competencies

The in-service need indicator data were obtained by adding the importance ratings of area school personnel to their perceived need for including the competency in an in-service education program. The following diagram will assist in interpreting the in-service need indicator data:

Figure 1. Diagram for determining in-service education need.


MEAN RATING FOR PERCEIVED IN-SERVICE EDUCATION NEED
HIGH 11
10
9
8
7
6
5
4
3
2
LOW 1
MEAN IMPORTANCE RATING
HIGH 11
10
9
8
7
6
5
4
3
2
LOW 1
GREAT NEED FOR IN-SERVICE EDUCATION "22.0"
AVERAGE NEED FOR IN-SERVICE EDUCATION "12.0"
LITTLE NEED FOR IN-SERVICE EDUCATION "2.0"

Calculating and analyzing the in-service need indicator and determining differences among instructor groups and agricultural program areas should assist in identifying the in-service education needs of Iowa area vocational school agriculture personnel.

Tables 65 through 74 report the analyses of the in-service need indicator calculated for each competency, and comparisons were made to determine differences in in-service need indicator among participants grouped by their staff title. Competencies are presented by professional competency group and ranked by total mean in-service need indicator within each professional competency group. Significant differences were observed among staff title groups for the following competencies listed by competency number.

A-14. Develop individualized delivery system for students. A signficantly ($P < .05$) higher mean in-service need indicator was calculated for department heads as compared to instructors.

E-4. Supervise students while placed on the job. The in-service need indicator was significantly ($P < .01$) greater for area school department heads and program coordinators than for area school instructors with no administrative responsibilities.

E-6. Develop on-the-job training plans for students. Area school department heads received a significantly ($P < .01$) higher in-service need indicator than did area school instructors.

F-6. Cooperate and work with adult division. Area school department heads received a significantly ($P < .01$) higher in-service need indicator than did area school instructors.

J-5. Maintain safe, orderly, clean program facilities and equipment. A significantly ($P < .05$) higher in-service need indicator was observed for area school department heads than for area school instructors.

The professional competency group mean in-service need indicator was calculated and comparisons were made among staff title groups for each of the competency groups. Table 75 summarizes the means, standard deviations and F ratios for these analyses. No significant differences were observed for any of the professional competency groups.

Table 65. Means, standard deviations and F ratios for in-service need indicator of professional education competencies (Instructional Activities - Planning) as perceived among participants grouped by staff title

A. INSTRUCTIONAL ACTIVITIES - PLANNING Competency	Group 1[a] Mean S.D.	Group 2[b] Mean S.D.	Group 3[c] Mean S.D.	Total Mean S.D.	F ratio
1. Select appropriate instructional method(s) for learning situation	18.08 3.53	17.86 3.30	19.14 2.66	18.18 3.38	0.69
2. Develop real laboratory experiences as an integral part of the instructional program	18.03 4.15	17.54 5.00	19.28 2.82	18.09 4.19	0.76
3. Design and select student learning activities through which students can accomplish stated performance objectives	18.08 3.67	16.68 4.43	19.28 2.02	17.95 3.72	2.28
4. Select appropriate audio-visual materials for instructional purposes	17.00 3.61	17.45 2.96	19.32 1.73	17.39 3.56	2.81
5. Develop and write course outlines	17.07 4.24	17.14 4.82	18.71 3.81	17.30 4.31	0.87
6. Develop a variety of audio-visual materials for instructional purposes	17.17 3.50	16.45 3.78	17.57 3.34	17.07 3.52	0.50
7. Select appropriate textbooks and instructional resource(s) for learning situation	16.86 4.03	17.91 3.31	16.50 3.65	17.03 3.84	0.78
8. Write measurable performance objectives for program and instructional units	16.90 4.58	16.00 4.34	18.57 3.37	16.93 4.42	1.47
9. Develop simulated laboratory experiences as an integral part of the instructional program	16.79 5.00	15.91 5.48	16.93 3.43	16.63 4.90	0.30

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[a] Group 1 = Area school instructors.

[b] Group 2 = Area school instructors--program coordinators.

[d] Group 3 = Area school department heads.

Table 65 (Continued)

A. INSTRUCTIONAL ACTIVITIES - PLANNING Competency	Group 1 Mean S.D.	Group 2 Mean S.D.	Group 3 Mean S.D.	Total Mean S.D.	F ratio
10. Plan, provide and schedule the utilization of facilities and equipment for maximum student benefit	15.75 5.18	15.09 4.34	15.71 5.01	15.61 4.96	0.15
11. Develop and implement individualized instructional materials	15.10 4.69	14.32 5.11	16.21 5.32	15.08 4.84	0.65
12. Organize and break down agricultural occupation(s) into component parts for instructional and guidance purposes	14.24 5.24	14.45 4.72	14.93 5.15	14.37 5.09	0.11
13. Reproduce instructional materials with a variety of duplicating equipment	13.86 6.05	14.64 6.07	14.07 5.31	14.05 5.92	0.14
14. Develop individualized delivery system for students	13.17 5.35	15.27 4.07	16.36 4.11	14.02 5.07	3.29* 3 > 1
15. Build models and displays for instructional purposes	13.58 5.65	12.54 5.70	15.00 2.88	13.55 5.38	0.89

*Significant at the .05 level of probability.

Table 66. Means, standard deviations and F ratios for in-service need indicator of professional education competencies (Instructional Activities - Execution) as perceived among participants grouped by staff title

B. INSTRUCTIONAL ACTIVITIES - EXECUTION Competency	Group 1[a] Mean S.D.	Group 2[b] Mean S.D.	Group 3[c] Mean S.D.	Total Mean S.D.	F ratio
1. Employ a variety of individual and group motivational techniques	18.48 3.10	18.45 3.79	19.71 2.09	18.64 3.14	0.95
2. Utilize a variety of instructional methods in program delivery	18.39 3.33	18.36 2.77	19.28 1.33	18.51 3.02	0.53
3. Employ a variety of instructional resources in program delivery	18.14 3.55	18.14 2.82	18.86 2.25	18.23 3.26	0.29
4. Maintain effective learning environment	17.78 3.45	18.59 3.29	18.50 2.74	18.05 3.61	0.64
5. Utilize a student-centered teaching style	17.20 3.66	16.27 5.00	18.50 2.50	17.18 3.87	1.43
6. Develop interest approaches for each instructional period	16.68 4.36	18.04 3.70	17.86 3.13	17.12 4.10	1.18
7. Plan, organize and conduct field trips	16.83 4.33	17.32 3.56	18.07 4.18	17.09 4.15	0.56
8. Function as a director of learning process	16.46 4.25	15.27 5.04	17.21 4.96	16.31 4.51	0.90
9. Relate personal experiences and events to agricultural occupational instruction	16.08 4.57	16.82 4.27	16.21 5.02	16.25 4.54	0.22
10. Develop and utilize the learning resource center in instructional activities	16.04 4.38	15.82 4.50	17.23 4.00	16.14 4.34	0.48

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[a] Group 1 = Area school instructors.

[b] Group 2 = Area school instructors--program coordinators.

[c] Group 3 = Area school department heads.

Table 66 (Continued)

B. INSTRUCTIONAL ACTIVITIES - EXECUTION Competency	Group 1 Mean S.D.	Group 2 Mean S.D.	Group 3 Mean S.D.	Total Mean S.D.	F ratio
11. Summarize daily and unit instruction	15.47 4.70	16.73 4.10	16.92 3.80	15.91 4.48	1.03
12. Write a daily instructional plan	13.65 5.84	14.59 5.16	15.28 4.73	14.06 5.56	0.63

Table 67. Means, standard deviations and F ratios for in-service need indicator of professional education competencies (Instructional Activities - Evaluation) as perceived among participants grouped by staff title

C. INSTRUCTIONAL ACTIVITIES - EVALUATION Competency	Group 1[a] Mean S.D.	Group 2[b] Mean S.D.	Group 3[c] Mean S.D.	Total Mean S.D.	F ratio
1. Assist students in evaluating their own progress	17.98 3.66	18.91 3.35	18.57 2.53	18.25 3.46	0.66
2. Evaluate own techniques and methods of teaching for effectiveness according to standards of agricultural occupations and based on student needs	17.68 3.49	18.82 3.10	18.43 2.17	18.02 3.27	1.13
3. Develop tests and criteria for measuring student performance and progress	17.26 3.71	17.59 4.95	19.43 2.28	17.61 3.89	1.85
4. Evaluate field trips and laboratory activities	16.73 4.01	17.50 3.25	18.50 2.14	17.12 3.69	1.50
5. Evaluate the overall effectiveness of program in terms of program objectives	16.50 4.72	16.73 4.66	18.93 3.02	16.87 4.56	1.69
6. Maintain student performance or progress reports and competency records	15.61 4.59	15.86 5.30	17.50 3.65	15.92 4.64	0.96
7. Formulate a system of grading consistent with the department and area school policy	14.67 5.46	16.64 5.29	17.60 4.01	15.49 5.33	2.58
8. Evaluate performance of other instructional staff	9.54 5.30	12.59 5.62	10.71 5.84	10.33 5.52	2.67

[a] Group 1 = Area school instructors.

[b] Group 2 = Area school instructors--program coordinators.

[c] Group 3 = Area school department heads.

Table 68. Means, standard deviations and F ratios for in-service need indicator of professional education competencies (Program Planning) as perceived among participants grouped by staff title

D. PROGRAM PLANNING Competency	Group 1[a] Mean S.D.	Group 2[b] Mean S.D.	Group 3[c] Mean S.D.	Total Mean S.D.	F ratio
1. Determine and develop facilities essential to the program	17.33 3.80	17.36 4.12	17.14 3.80	17.31 3.83	0.02
2. Develop and analyze agricultural program goals and objectives	17.26 3.65	16.82 3.38	18.36 2.34	17.31 3.45	0.88
3. Select, utilize and maintain agricultural program advisory committee	16.90 3.85	17.59 3.54	18.00 3.44	17.19 3.73	0.66
4. Assist administrators in developing and maintaining agricultural program	16.37 4.61	16.68 3.93	17.36 3.59	16.57 4.33	0.31
5. Promote and conduct adult or technical in-service agricultural programs	14.84 4.92	15.50 4.02	14.71 5.41	14.96 4.78	0.18
6. Conduct and interpret a task (competency) or activity analysis of agricultural occupations	13.73 5.33	14.10 3.66	17.00 3.46	14.24 4.91	2.68
7. Utilize local and statewide guidelines and needs assessments for program planning	13.06 5.41	14.77 3.99	15.00 5.82	13.67 5.23	1.43
8. Conduct community surveys to improve instruction or plan programs	13.06 5.12	14.27 4.55	15.43 5.73	13.62 5.12	1.49
9. Utilize local and statewide policy in securing reimbursement for occupational programs	12.78 6.34	13.86 5.78	14.71 5.99	13.26 6.17	0.70
10. Interpret the socio-economic and power structure of the community	12.21 5.28	11.45 5.41	12.57 5.11	12.10 5.25	0.24

[a] Group 1 = Area school instructors.

[b] Group 2 = Area school instructors--program coordinators.

[c] Group 3 = Area school department heads.

Table 69. Means, standard deviations and F ratios for in-service need indicator of professional education competencies (Coordination--on-the-Job) as perceived among participants grouped by staff title

E. COORDINATION-ON-THE-JOB Competency	Group 1[a] Mean S.D.	Group 2[b] Mean S.D.	Group 3[c] Mean S.D.	Total Mean S.D.	F ratio
1. Evaluate objectively student performance on-the-job	17.56 3.95	17.41 4.92	18.93 2.46	17.71 4.01	0.75
2. Maintain liaison with agriculture employment agencies and potential employers	17.14 3.54	17.41 3.94	18.86 2.32	17.42 4.56	1.41
3. Evaluate on-the-job experience programs and experience centers	16.60 4.77	17.91 4.63	19.21 2.36	17.22 4.56	2.29
4. Supervise students while placed on-the-job	15.72 5.31	18.86 2.82	18.57 3.41	16.74 4.87	5.00** 2,3 > 1
5. Plan and coordinate on-the-job experience programs	15.90 4.86	17.14 4.79	19.28 2.13	16.60 4.70	3.36*
6. Develop on-the-job training plans for students	15.08 5.40	17.45 4.96	19.14 2.68	16.10 5.23	4.76** 3 > 1
7. Select on-the-job training centers	14.73 5.06	17.14 4.62	16.78 3.53	15.50 4.88	2.68
8. Secure on-the-job training stations for students	14.77 5.59	16.50 4.37	16.64 3.69	15.37 5.18	1.43
9. Conduct a training station development program	13.84 4.79	14.50 4.90	16.36 2.84	14.31 4.65	1.76

[a] Group 1 = Area school instructors.

[b] Group 2 = Area school instructors--program coordinators.

[c] Group 3 = Area school department heads.

*Significant at the .05 level of probability.

**Significant at the .01 level of probability.

Table 70. Means, standard deviations and F ratios for in-service need indicator of professional education competencies (Area School - Community Relations) as perceived among participants grouped by staff title

F. AREA SCHOOL - COMMUNITY RELATIONS Competency	Group 1[a] Mean S.D.	Group 2[b] Mean S.D.	Group 3[c] Mean S.D.	Total Mean S.D.	F ratio
1. Work cooperatively with individuals, business and industry in the community	17.28 3.60	17.86 3.56	18.28 2.78	17.54 3.48	0.60
2. Articulate agricultural program with other agricultural education institutions or programs, such as, vocational agriculture, cooperative extension, and university	16.58 4.75	18.14 4.54	18.14 2.88	17.11 4.34	1.53
3. Develop good working relationships with area school personnel and staff	16.60 3.98	16.68 3.68	16.00 4.88	16.54 4.01	0.14
4. Communicate ideas and concepts to other instructors, area school personnel, and community members	15.98 3.99	16.59 2.87	17.07 4.50	16.25 3.84	0.57
5. Obtain information and materials for update and news releases	15.81 4.57	16.68 3.86	17.14 3.23	16.17 4.27	0.76
6. Cooperate and work with adult education division	14.46 4.93	15.45 3.58	17.57 2.28	15.08 4.50	2.98* 3 > 1
7. Participate in local staff organizations and activities	14.77 4.23	15.27 3.61	15.64 2.20	14.99 3.88	0.43
8. Cooperate and work with instructors in transfer education	15.03 4.48	14.18 4.08	15.36 3.10	14.90 4.22	0.43
9. Participate in community organizations and activities	14.54 4.21	15.45 3.67	15.50 3.57	14.86 4.02	0.63

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[a] Group 1 = Area school instructors.

[b] Group 2 = Area school instructors--program coordinators.

[c] Group 3 = Area school department heads.

*Significant at the .05 level of probability.

Table 70 (Continued)

F. AREA SCHOOL - COMMUNITY RELATIONS Competency	Group 1 Mean S.D.	Group 2 Mean S.D.	Group 3 Mean S.D.	Total Mean S.D.	F ratio
10. Work with faculty members on area school committees	14.58 4.39	14.91 3.35	15.00 3.93	14.71 4.10	0.09
11. Assist in the development of the total area school program	13.97 5.25	15.23 3.32	17.14 4.44	14.65 4.79	2.85
12. Understand and interpret the community problems and culture	14.66 5.31	14.45 4.53	14.50 5.00	14.59 5.07	0.02

Table 71. Means, standard deviations and F ratios for in-service need indicator of professional education competencies (Student Activities) as perceived among participants grouped by staff title

G. STUDENT ACTIVITIES Competency	Group 1[a] Mean S.D.	Group 2[b] Mean S.D.	Group 3[c] Mean S.D.	Total Mean S.D.	F ratio
1. Develop and maintain rapport with students	17.49 3.84	19.04 3.26	18.64 3.36	17.97 3.70	1.76
2. Recruit and interview students for agricultural programs	16.72 4.32	17.77 3.57	18.57 3.82	17.19 4.14	1.45
3. Develop and guide special study topics for students	16.07 4.07	16.36 3.46	17.93 2.34	16.38 3.79	1.41
4. Promote, sponsor, and advise student program or department organizations and activities	15.35 4.38	15.45 4.28	17.57 2.34	15.67 4.19	1.70
5. Conduct pre-assessment of students interests, abilities and aptitudes	14.48 5.54	16.09 3.19	16.64 4.50	15.10 5.04	1.62
6. Complete and process student records and reports for student personnel services	11.35 6.40	12.86 5.06	12.21 5.07	11.78 5.96	0.58

[a] Group 1 = Area school instructors.

[b] Group 2 = Area school instructors--program coordinators.

[c] Group 3 = Area school department heads.

Table 72. Means, standard deviations and F ratios for in-service need indicator of professional education competencies (Professional Role) as perceived among participants grouped by staff title

H. PROFESSIONAL ROLE Competency	Group 1[a] Mean S.D.	Group 2[b] Mean S.D.	Group 3[c] Mean S.D.	Total Mean S.D.	F ratio
1. Interpret the legal responsibilities and liabilities of a teacher	16.80 4.61	17.32 3.83	17.36 3.95	16.98 4.34	0.18
2. Interpret the goals and objectives of agricultural education	16.38 4.75	15.59 4.93	18.21 3.19	16.46 4.64	1.41
3. Plan a personal program of continuing professional education	15.96 4.80	16.59 3.49	17.78 2.97	16.33 4.37	1.07
4. Interpret the philosophy and goals of the area school	15.63 5.19	16.27 3.82	18.43 2.34	16.13 4.71	2.12
5. Participate in professional organizations related to educational and technical agriculture areas	15.41 4.60	16.41 3.57	17.14 3.46	15.85 4.28	1.19
6. Use information contained in professional journals for personal development and improvement of instruction	15.28 4.62	16.32 3.99	17.57 3.41	15.80 4.40	1.80
7. Recognize issues which divide educators	14.77 4.73	14.23 4.03	14.43 5.27	14.61 4.63	0.13
8. Adapt your appearance and apparel to acceptable standards for teachers	13.54 4.80	15.27 4.15	13.00 3.74	13.83 4.57	1.48
9. Interpret the history of vocational, occupational and career education	12.12 5.50	12.50 4.80	15.14 4.45	12.60 5.29	1.95

[a] Group 1 = Area school instructors.

[b] Group 2 = Area school instructors--program coordinators.

[c] Group 3 = Area school department heads.

Table 73. Means, standard deviations and F ratios for in-service need indicator of professional education competencies (Guidance and Counseling) as perceived among participants grouped by staff title

I. GUIDANCE AND COUNSELING Competency	Group 1[a] Mean S.D.	Group 2[b] Mean S.D.	Group 3[c] Mean S.D.	Total Mean S.D.	F ratio
1. Identify students in need of counseling or guidance	17.96 3.62	18.68 3.03	18.86 2.35	18.23 3.36	0.67
2. Inform students of the nature and requirements of specific agricultural occupations	16.93 3.62	17.59 2.99	17.93 2.64	17.20 3.38	0.69
3. Recognize, interpret and utilize student actions and behaviors	16.87 4.12	17.14 2.82	16.50 3.88	16.88 3.82	0.12
4. Relate to students from different socio-economic backgrounds	16.77 3.94	16.41 3.86	18.00 3.06	16.86 3.82	0.79
5. Provide special training or assistance to students who are disadvantaged or handicapped	16.21 4.80	16.68 3.00	18.86 2.07	16.66 4.27	2.29
6. Identify students with special needs and counsel with them in utilizing the learning resource center	16.44 4.12	16.86 3.83	16.64 2.87	16.56 3.89	0.10
7. Use counseling techniques to help students solve personal, social, educational problems	16.66 4.67	16.23 4.09	16.14 4.29	16.50 4.47	0.13
8. Assist students in securing permanent employment	15.90 4.83	17.00 5.52	18.64 2.53	16.49 4.81	2.10
9. Assist students in entering programs of advanced occupational training or education	16.14 3.56	16.77 3.41	16.50 2.90	16.32 3.43	0.30
10. Assist students in developing appropriate study practicies	15.44 4.80	15.54 5.05	16.36 3.63	15.58 4.69	0.22

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[a] Group 1 = Area school instructors.

[b] Group 2 = Area school instructors--program coordinators.

[c] Group 3 = Area school department heads.

Table 73 (Continued)

I. GUIDANCE AND COUNSELING Competency	Group 1 Mean S.D.	Group 2 Mean S.D.	Group 3 Mean S.D.	Total Mean S.D.	F ratio
11. Design, conduct, interpret, and use follow-up studies of program enrollees and graduates	15.14 5.00	14.14 4.68	17.78 2.64	15.28 4.78	2.67
12. Develop and maintain a relationship with and use student personnel services	14.84 4.19	14.68 4.87	16.71 3.75	15.06 4.30	1.22
13. Counsel and advise parents	12.78 5.55	12.95 6.09	13.71 5.01	12.94 5.55	0.16

Table 74. Means, standard deviations and F ratios for in-service need indicator of professional education competencies (Job Management) as perceived among participants grouped by staff title

J. JOB MANAGEMENT Competency	Group 1[a] Mean S.D.	Group 2[b] Mean S.D.	Group 3[c] Mean S.D.	Total Mean S.D.	F
1. Develop and implement appropriate safety procedures	17.61 3.73	18.41 3.55	19.14 2.71	17.98 3.59	1.26
2. Select and follow procedures in obtaining appropriate reference materials for students and staff	17.04 3.94	16.54 3.83	17.57 2.38	17.01 3.73	0.33
3. Develop and communicate rules, procedures and acceptable standards of student behavior	16.91 3.78	17.54 3.65	16.64 3.34	17.01 3.69	0.32
4. Develop a system for filing and records management	17.16 4.15	15.82 4.16	17.93 3.56	16.98 4.09	1.34
5. Maintain safe, orderly, clean program facilities and equipment	16.28 4.18	17.50 3.85	19.14 2.85	16.92 4.06	3.32* 3 > 1
6. Develop and maintain a positive working relationship with the administration	16.44 4.03	17.45 3.13	18.50 2.95	16.92 2.77	2.05
7. Interpret and adhere to area school policy	16.14 4.12	16.04 4.44	18.57 3.65	16.44 4.18	2.14
8. Purchase appropriate equipment and materials	16.54 3.93	16.45 3.75	15.64 5.96	16.40 4.18	0.27
9. Maintain necessary reports required by area school administrators, state agencies, and federal programs	15.16 4.92	16.27 4.34	17.07 4.08	15.65 4.72	1.20

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[a] Group 1 = Area school instructors.

[b] Group 2 = Area school instructors--program coordinators.

[c] Group 3 = Area school department heads.

*Significant at the .05 level of probability.

Table 74 (Continued)

J. JOB MANAGEMENT Competency	Group 1 Mean S.D.	Group 2 Mean S.D.	Group 3 Mean S.D.	Total Mean S.D.	F ratio
10. Plan and prepare budgets for occupational program	14.78 5.14	15.04 4.85	15.64 6.11	14.95 5.18	0.16
11. Use formalized criteria in selection and obtaining equipment, materials, and supplies for instructional purposes	14.46 5.27	15.09 3.89	16.07 4.94	14.80 4.96	0.66

Table 75. Means, standard deviations and F ratios for in-service need indicator of grouped professional education competencies as perceived among participants grouped by staff title

Professional education competency group	Group 1[a] Mean S.D.	Group 2[b] Mean S.D.	Group 3[c] Mean S.D.	Total Mean S.D.	F ratio
1. Instructional activities - execution	16.79 2.86	17.03 2.51	18.06 2.33	17.00 2.74	1.19
2. Job management	16.24 3.21	16.56 2.88	17.45 2.74	16.47 3.08	0.91
3. Coordination-on-the-job	15.71 3.40	17.15 3.74	18.20 2.28	16.33 3.45	4.03
4. Instructional activities - planning	16.11 2.68	15.95 1.93	17.17 2.30	16.22 2.51	1.20
5. Instructional activities - evaluation	15.75 2.95	16.83 2.33	17.50 2.24	16.20 2.80	3.08
6. Guidance and counseling	16.01 3.01	16.21 2.44	17.13 2.21	16.20 2.81	0.92
7. Student activities	15.24 3.11	16.26 2.50	16.93 2.11	15.68 2.93	2.55
8. Area school - community relations	15.40 3.36	15.91 2.84	16.45 2.06	15.65 3.11	0.74
9. Professional role	14.97 3.26	15.61 2.65	16.56 1.68	15.32 3.00	1.80
10. Program planning	14.80 3.14	15.34 2.42	16.03 2.74	15.07 2.96	1.11

[a] Group 1 = Area school instructors.

[b] Group 2 = Area school instructors--program coordinators.

[c] Group 3 = Area school department heads.

Tables 76 through 85 present the analyses of the in-service need indicator data when comparisons were made among participants grouped by their agricultural program area assigned. The competencies are included by professional competency group and are ranked by total mean in-service need indicator within each of the professional competency groups. There were significant differences observed among instructor program area groups for the following competencies listed by competency number:

E-3. *Evaluate on-the-job experience programs and experience centers*. A significantly ($P < .05$) greater mean in-service need indicator was calculated for agricultural supply and service instructors than for agricultural production and agricultural mechanics instructors.

F-5. *Obtain information and materials for update and news releases*. A significantly ($P < .05$) greater mean in-service need indicator was observed for agricultural production, supply and service, and mechanics instructors than for horticulture instructors.

F-7. *Participate in local staff organizations and activities*. Agricultural supply and service and mechanics instructors received a significantly ($P < .05$) higher mean in-service need indicator than did horticulture instructors.

H-5. *Participate in professional organizations related to educational and technical agriculture areas*. A significantly ($P < .05$) greater mean in-service need indicator was observed for agricultural supply and service instructors than for agricultural production and horticulture instructors.

H-9. *Interpret the history of vocational, occupational and career education.* Agricultural mechanics instructors received a significantly ($P < .05$) higher mean in-service need indicator than did agricultural production and horticulture instructors. Agricultural supply and service instructors received a significantly higher mean need indicator than horticulture instructors.

J-9. *Maintain necessary reports required by area school administrators, state agencies, and federal programs.* Significantly ($P < .01$) greater mean in-service need indicator scores were calculated for agricultural supply and service, and mechanics instructors than for horticulture instructors. Scores for supply and service instructors were also significantly greater than scores for production instructors.

The comparative analyses for each professional competency group mean in-service need indicator among participants grouped by their agricultural program area assigned are presented in Table 86. A significant ($P < .05$) difference was observed for the "Professional role" competency group. However, Duncan's procedure for multiple comparisons revealed no significant differences among means.

Table 76. Means, standard deviations and F ratios for in-service need indicator of professional education competencies (Instructional Activities - Planning) as perceived among participants grouped by agricultural program assigned

A. INSTRUCTIONAL ACTIVITIES - PLANNING Competency	Group 1[a] Mean S.D.	Group 2[b] Mean S.D.	Group 3[c] Mean S.D.	Group 4[d] Mean S.D.	Total Mean S.D.	F ratio
1. Select appropriate instructional method(s) for learning situation	14.43 3.28	18.88 3.08	18.82 3.68	17.85 4.32	17.99 3.48	1.13
2. Develop real laboratory experiences as an integral part of the instructional program	17.14 4.32	17.35 5.30	20.18 2.27	18.46 4.29	17.90 4.32	2.33
3. Design and select student learning activities through which students can accomplish stated performance objectives	17.16 3.93	19.12 3.26	18.47 3.57	17.23 4.30	17.75 3.84	1.40
4. Select appropriate audio-visual materials for instructional purposes	17.04 3.19	16.83 3.71	17.70 4.16	17.69 3.23	17.21 3.45	0.30
5. Develop and write course outlines	16.76 4.08	18.35 4.03	18.00 3.90	16.00 5.79	17.16 4.31	1.11
6. Select appropriate textbooks and instructional resource(s) for learning situation	16.53 3.93	17.65 3.62	18.24 4.08	16.62 3.62	17.04 3.87	1.02
7. Develop a variety of audio-visual materials for instructional purposes	17.49 3.31	16.18 3.76	16.12 4.08	17.31 3.33	16.99 3.54	1.00
8. Write measurable performance objectives for program and instructional units	16.41 4.45	17.94 3.54	17.00 4.68	15.77 5.67	16.70 4.51	0.70

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[a] Group 1 = Agricultural production instructors.

[b] Group 2 = Agricultural supply and service instructors.

[c] Group 3 = Agricultural power and machinery mechanics instructors.

[d] Group 4 = Horticulture instructors.

Table 76 (Continued)

A. INSTRUCTIONAL ACTIVITIES - PLANNING Competency	Group 1[a] Mean S.D.	Group 2[b] Mean S.D.	Group 3[c] Mean S.D.	Group 4[d] Mean S.D.	Total Mean S.D.	F ratio
9. Develop simulated laboratory experiences as an integral part of the instructional program	16.47 4.99	15.65 4.81	17.88 4.96	16.62 5.81	16.59 5.04	0.57
10. Plan, provide and schedule the utilization of facilities and equipment for maximum student benefit	15.26 4.92	14.24 5.18	18.00 4.53	16.08 4.70	15.68 4.94	1.93
11. Develop and implement individualized instructional materials	14.98 5.33	15.59 3.64	14.06 4.94	14.62 3.50	14.88 4.74	0.31
12. Organize and break down agricultural occupation(s) into component parts for instructional and guidance purposes	13.43 5.29	15.65 5.21	15.82 4.35	14.23 4.75	14.35 5.08	1.40
13. Reproduce instructional materials with a variety of duplicating equipment	14.71 5.44	13.06 7.22	14.12 6.37	11.77 6.06	13.92 6.02	0.96
14. Develop individualized delivery system for students	13.51 5.56	14.47 4.35	13.88 5.21	13.23 4.17	13.71 5.07	0.19
15. Build models and displays for instructional purposes	13.00 5.71	13.41 5.54	15.70 4.95	12.15 5.93	13.44 5.61	1.26

Table 77. Means, standard deviations and F ratios for in-service need indicator of professional education competencies (Instructional Activities - Execution) as perceived among participants grouped by agricultural program assigned

B. INSTRUCTIONAL ACTIVITIES - EXECUTION Competency	Group 1[a] Mean S.D.	Group 2[b] Mean S.D.	Group 3[c] Mean S.D.	Group 4[d] Mean S.D.	Total Mean S.D.	F ratio
1. Employ a variety of individual and group motivational techniques	18.26 2.85	19.00 3.45	18.65 3.59	18.77 4.06	18.53 2.23	0.25
2. Utilize a variety of instructional methods in program delivery	18.06 3.38	18.82 2.65	19.24 2.82	18.08 3.30	18.41 3.14	0.73
3. Employ a variety of instructional resources in program delivery	18.08 3.17	17.94 4.02	18.53 3.81	18.23 2.59	18.16 3.33	0.10
4. Maintain effective learning environment	18.04 3.05	17.53 4.18	19.19 3.17	17.08 3.62	18.01 3.38	1.10
5. Develop interest approaches for each instructional period	17.35 3.73	17.35 4.09	15.44 5.50	17.31 4.33	17.02 4.21	0.91
6. Utilize a student-centered teaching style	16.88 3.89	18.24 3.96	16.70 4.38	16.31 3.70	17.01 3.95	0.73
7. Plan, organize and conduct field trips	17.24 3.35	17.53 3.94	15.76 6.79	15.85 3.58	16.84 4.26	0.89
8. Relate personal experiences and events to agricultural occupational instruction	16.47 4.09	17.18 4.26	15.81 6.04	14.23 4.87	16.18 4.61	1.14

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[a] Group 1 = Agricultural production instructors.

[b] Group 2 = Agricultural supply and service instructors.

[c] Group 3 = Agricultural power and machinery mechanics instructors.

[d] Group 4 = Horticulture instructors.

Table 77 (Continued)

B. INSTRUCTIONAL ACTIVITIES - EXECUTION Competency	Group 1 Mean S.D.	Group 2 Mean S.D.	Group 3 Mean S.D.	Group 4 Mean S.D.	Total Mean S.D.	F ratio
9. Function as a director of learning process	15.82 4.49	16.70 4.43	16.06 5.99	16.46 3.73	16.10 4.61	0.18
10. Develop and utilize the learning resource center in instructional activities	15.33 4.70	16.24 3.88	16.87 4.14	17.15 3.67	15.99 4.31	0.91
11. Summarize daily and unit instruction	15.63 4.54	17.00 4.05	15.80 4.49	14.77 5.23	15.79 4.52	0.64
12. Write a daily instructional plan	13.10 5.85	14.65 5.57	15.35 5.76	13.62 4.33	13.84 5.59	0.82

Table 78. Means, standard deviations and F ratios for in-service need indicator of professional education competencies (Instructional Activities - Evaluation) as perceived among participants grouped by agricultural program assigned

C. INSTRUCTIONAL ACTIVITIES - EVALUATION Competency	Group 1[a] Mean S.D.	Group 2[b] Mean S.D.	Group 3[c] Mean S.D.	Group 4[d] Mean S.D.	Total Mean S.D.	F ratio
1. Assist students in evaluating their own progress	18.13 3.71	17.70 4.27	17.75 3.11	19.08 2.69	18.15 3.57	0.44
2. Evaluate own techniques and methods of teaching for effectiveness according to standards of agricultural occupations and based on student needs	17.55 3.48	18.59 3.00	17.00 3.67	19.77 2.35	17.95 3.37	2.20
3. Develop tests and criteria for measuring student performance and progress	16.63 4.58	18.47 3.57	17.44 3.12	18.46 2.47	17.35 3.98	1.33
4. Evaluate field trips and laboratory activities	17.02 3.50	15.76 5.23	16.88 3.90	17.85 2.27	16.88 3.79	0.79
5. Maintain student performance or progress reports and competency records	14.82 5.33	15.18 3.84	17.44 3.65	17.15 3.48	15.64 4.69	1.84
6. Evaluate the overall effectiveness of program in terms of program objectives	16.20 4.79	17.00 5.05	17.06 3.71	16.62 4.80	16.55 4.62	0.20
7. Formulate a system of grading consistent with the department and area school policy	14.12 6.01	18.24 3.36	16.31 3.93	13.85 5.19	15.19 5.39	3.16
8. Evaluate performance of other instructional staff	9.92 5.74	11.47 5.32	10.38 4.96	9.77 5.56	10.25 5.46	0.37

[a] Group 1 = Agricultural production instructors.

[b] Group 2 = Agricultural supply and service instructors.

[c] Group 3 = Agricultural power and machinery mechanics instructors.

[d] Group 4 = Horticulture instructors.

Table 79. Means, standard deviations and F ratios for in-service need indicator of professional education competencies (Program Planning) as perceived among participants grouped by agricultural program assigned

D. PROGRAM PLANNING Competency	Group 1[a] Mean S.D.	Group 2[b] Mean S.D.	Group 3[c] Mean S.D.	Group 4[d] Mean S.D.	Total Mean S.D.	F ratio
1. Determine and develop facilities essential to the program	17.41 3.98	17.12 4.15	17.00 3.86	18.15 2.73	17.39 3.81	0.25
2. Develop and analyze agricultural program goals and objectives	17.47 3.46	17.41 3.14	15.81 4.28	17.23 3.47	17.15 3.55	0.92
3. Select, utilize and maintain agricultural program advisory committee	16.31 3.63	18.53 4.08	18.00 3.14	16.62 3.82	17.03 3.72	2.02
4. Assist administrators in developing and maintaining agricultural program	16.53 4.20	17.00 4.67	17.06 3.58	14.77 5.70	16.46 4.40	0.83
5. Promote and conduct adult or technical in-service agricultural programs	15.57 4.84	15.24 4.80	15.41 4.65	11.77 4.13	14.97 4.81	2.33
6. Conduct and interpret a task (competency) or activity analysis of agricultural occupations	13.75 5.00	13.65 6.00	15.00 3.39	13.69 5.30	13.94 4.95	0.29
7. Utilize local and statewide guidelines and needs assessments for program planning	13.51 5.34	14.53 4.42	13.19 5.99	13.23 4.28	13.60 5.11	0.24
8. Conduct community surveys to improve instruction or plan programs	13.37 5.38	14.00 4.95	15.06 4.52	11.69 4.13	13.54 5.03	1.14

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[a] Group 1 = Agricultural production instructors.

[b] Group 2 = Agricultural supply and service instructors.

[c] Group 3 = Agricultural power and machinery mechanics instructors.

[d] Group 4 = Horticulture instructors.

Table 79 (Continued)

D. PROGRAM PLANNING Competency	Group 1 Mean S.D.	Group 2 Mean S.D.	Group 3 Mean S.D.	Group 4 Mean S.D.	Total Mean S.D.	F ratio
9. Utilize local and statewide policy in securing reimbursement for occupational programs	13.37 6.17	14.35 6.77	14.75 5.70	9.62 5.48	13.26 6.22	2.04
10. Interpret the socioeconomic and power structure of the community	12.31 5.58	11.65 5.00	12.75 4.93	11.62 5.30	12.17 5.27	0.17

Table 80. Means, standard deviations and F ratios for in-service need indicator of professional education competencies (Coordination-on-the-Job) as perceived among participants grouped by agricultural program assigned

E. COORDINATIONA-ON-THE-JOB Competency	Group 1[a] Mean S.D.	Group 2[b] Mean S.D.	Group 3[c] Mean S.D.	Group 4[d] Mean S.D.	Total Mean S.D.	F ratio
1. Evaluate objectively student performance on-the-job	17.73 3.94	18.41 3.98	16.35 4.60	17.00 4.58	17.51 4.14	0.82
2. Maintain liaison with agriculture employment agencies and potential employers	17.14 3.03	17.47 4.72	17.65 3.30	16.23 3.59	17.17 3.59	0.43
3. Evaluate on-the-job experience programs and experience centers	16.69 4.66	19.59 2.85	14.94 6.13	17.00 3.46	16.94 4.71	3.04* 2 > 1,3
4. Supervise students while placed on-the-job	17.08 4.24	17.82 5.09	14.59 5.60	15.15 6.08	16.51 4.98	1.82
5. Plan and coordinate on-the-job experience programs	16.33 5.03	18.18 3.21	15.94 4.62	13.85 5.35	16.25 4.82	2.08
6. Develop on-the-job training stations for students	15.86 5.44	17.47 4.99	14.70 5.43	14.08 5.09	15.70 5.34	1.24
7. Select on-the-job training centers	15.26 5.17	16.70 4.80	15.24 4.76	14.15 5.14	15.36 5.01	0.66
8. Secure on-the-job training stations for students	14.82 5.47	16.82 5.91	15.70 4.67	14.00 4.83	15.22 5.32	0.88
9. Conduct a training station development program	14.04 5.50	15.29 3.84	14.59 3.41	12.00 4.22	14.08 4.78	1.26

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[a] Group 1 = Agricultural production instructors.

[b] Group 2 = Agricultural supply and service instructors.

[c] Group 3 = Agricultural power and machinery mechanics instructors.

[d] Group 4 = Horticulture instructors.

*Significant at the .05 level of probability.

Table 81. Means, standard deviations and F ratios for in-service need indicator of professional education competencies (Area School - Community Relations) as perceived among participants grouped by agricultural program assigned

F. AREA SCHOOL - COMMUNITY RELATIONS Competency	Group 1[a] Mean S.D.	Group 2[b] Mean S.D.	Group 3[c] Mean S.D.	Group 4[d] Mean S.D.	Total Mean S.D.	F ratio
1. Work cooperatively with individuals, business and industry in the community	17.73 3.47	17.82 3.94	17.19 3.64	15.77 3.09	17.39 3.55	1.16
2. Articulate agricultural program with other agricultural education institutions or programs, such as, vocational agriculture, cooperative extension, and university	17.61 4.73	17.76 3.88	16.38 3.44	14.15 4.56	16.96 4.47	2.43
3. Develop good working relationships with area school personnel and staff	16.73 3.93	16.88 4.18	18.00 3.39	14.23 3.00	16.63 3.87	2.48
4. Communicate ideas and concepts to other instructors, area school personnel, and community members	16.20 3.94	16.24 4.12	16.44 3.50	15.31 2.56	16.13 3.70	0.26
5. Obtain information and materials for update and news releases	16.37 4.45	17.00 3.72	16.62 3.83	12.92 4.68	16.05 4.38	2.80* 1,2,3 > 4
6. Cooperate and work with instructors in transfer education	14.92 4.55	14.35 4.18	15.62 4.22	14.62 4.15	14.89 4.33	0.25
7. Participate in local staff organizations and activities	14.49 4.13	16.53 4.06	16.06 3.77	12.77 2.68	14.88 4.02	2.94* 2,3 > 4

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[a] Group 1 = Agricultural production instructors.

[b] Group 2 = Agricultural supply and service instructors.

[c] Group 3 = Agricultural power and machinery mechanics instructors.

[d] Group 4 = Horticulture instructors.

*Significant at the .05 level of probability.

Table 81 (Continued)

F. AREA SCHOOL - COMMUNITY RELATIONS Competency	Group 1 Mean S.D.	Group 2 Mean S.D.	Group 3 Mean S.D.	Group 4 Mean S.D.	Total Mean S.D.	F ratio
8. Cooperate and work with adult education division	15.18 4.44	15.29 4.45	15.81 5.04	11.08 3.50	14.79 4.60	3.26
9. Participate in community organizations and activities	14.76 4.12	15.82 4.25	15.44 3.76	12.69 3.30	14.78 4.03	1.72
10. Work with faculty members on area school committees	14.06 4.44	16.24 3.61	15.69 3.75	13.85 3.29	14.69 4.10	1.72
11. Understand and interpret the community problems and culture	14.57 5.35	15.12 4.30	15.88 4.88	13.08 5.22	14.68 5.07	0.78
12. Assist in the development of the total area school program	14.26 5.08	14.47 5.20	16.44 3.85	12.38 4.27	14.41 4.88	1.72

Table 82. Means, standard deviations and F ratios for in-service need indicator of professional education competencies (Student Activities) as perceived among participants grouped by agricultural program assigned

G. STUDENT ACTIVITIES Competency	Group 1[a] Mean S.D.	Group 2[b] Mean S.D.	Group 3[c] Mean S.D.	Group 4[d] Mean S.D.	Total Mean S.D.	F ratio
1. Develop and maintain rapport with students	17.67 3.83	18.70 3.84	17.75 3.70	17.77 3.72	17.88 3.75	0.33
2. Recruit and interview students for agricultural programs	17.50 4.04	17.53 4.11	16.62 5.06	15.23 3.44	17.04 4.18	1.14
3. Develop and guide special study topics for students	15.81 4.22	16.76 3.82	16.88 3.28	15.77 3.54	16.16 3.88	0.48
4. Promote, sponsor, and advise student program or department organizations and activities	15.81 3.91	16.29 4.90	14.75 4.67	13.31 4.07	15.37 4.29	1.57
5. Conduct pre-assessment of students' interests, abilities and aptitudes	14.96 4.39	14.70 6.14	15.81 5.32	13.77 5.73	14.89 5.04	0.40
6. Complete and process student records and reports for student personnel services	10.75 6.14	11.35 7.15	14.38 5.07	12.15 4.54	11.67 6.04	1.51

[a] Group 1 = Agricultural production instructors.

[b] Group 2 = Agricultural supply and service instructors.

[c] Group 3 = Agricultural power and machinery mechanics instructors.

[d] Group 4 = Horticulture instructors.

Table 83. Means, standard deviations and F ratios for in-service need indicator of professional education competencies (Professional Role) as perceived among participants grouped by agricultural program assigned

H. PROFESSIONAL ROLE Competency	Group 1[a] Mean S.D.	Group 2[b] Mean S.D.	Group 3[c] Mean S.D.	Group 4[d] Mean S.D.	Total Mean S.D.	F ratio
1. Interpret the legal responsibilities and liabilities of a teacher	16.76 4.69	18.00 3.43	17.33 3.74	16.00 5.08	16.97 4.38	0.59
2. Interpret the goals and objectives of agricultural education	15.76 5.33	17.53 4.12	18.31 2.63	14.46 4.50	16.33 4.76	2.28
3. Plan a personal program of continuing professional education	15.98 4.56	17.00 3.74	17.31 4.21	14.15 5.05	16.14 4.47	1.47
4. Interpret the philosophy and goals of the area school	15.45 5.13	16.88 4.94	17.38 3.76	14.38 4.68	15.88 4.86	1.30
5. Participate in professional organizations related to educational and technical agriculture areas	15.06 4.52	18.18 3.17	15.81 4.26	14.31 4.37	15.64 4.37	2.75* 2 > 1,4
6. Use information contained in professional journals for personal development and improvement of instruction	15.33 4.63	16.41 4.54	15.31 4.63	15.77 3.79	15.58 4.46	0.27
7. Recognize issues which divide educators	14.59 4.57	16.06 3.56	15.75 4.68	12.15 4.63	14.72 4.53	2.26
8. Adapt your appearance and apparel to acceptable standards for teachers	13.51 4.75	15.47 3.30	14.81 4.34	12.08 5.56	13.88 4.63	1.68
9. Interpret the history of vocational, occupational and career education	11.63 5.39	13.56 4.76	14.94 5.80	9.46 3.55	12.22 5.34	3.30* 3 > 1,4; 2 > 4

[a] Group 1 = Agricultural production instructors.

[b] Group 2 = Agricultural supply and service instructors.

[c] Group 3 = Agricultural power and machinery mechanics instructors.

[d] Group 4 = Horticulture instructors.

*Significant at the .05 level of probability.

Table 84. Means, standard deviations and F ratios for in-service need indicator of professional education competencies (Guidance and Counseling) as perceived among participants grouped by agricultural program assigned

I. GUIDANCE AND COUNSELING Competency	Group 1[a] Mean S.D.	Group 2[b] Mean S.D.	Group 3[c] Mean S.D.	Group 4[d] Mean S.D.	Total Mean S.D.	F ratio
1. Identify students in need of counseling or guidance	18.49 3.27	18.00 3.54	17.75 4.17	17.08 3.38	18.08 3.47	0.63
2. Inform students of the nature and requirements of specific agricultural occupations	16.88 3.25	17.53 4.17	17.50 3.44	16.46 3.41	17.04 3.44	0.36
3. Recognize, interpret and utilize student actions and behaviors	16.98 3.32	17.65 3.26	17.31 4.28	15.23 5.34	16.92 3.81	1.12
4. Relate to students from different socio-economic backgrounds	16.49 4.09	16.70 4.25	17.44 3.98	16.46 2.63	16.68 3.89	0.25
5. Identify students with special needs and counsel with them in utilizing the learning resource center	16.02 4.09	16.18 4.36	18.75 2.59	16.31 3.99	16.55 3.99	2.04
6. Use counseling techniques to help students solve personal, social, ecucational problems	16.71 4.10	15.35 5.46	16.43 5.16	17.23 3.74	16.49 4.48	0.52
7. Provide special training or assistance to students who are disadvantaged or handicapped	16.02 4.40	16.76 3.40	18.12 3.24	15.15 6.14	16.39 4.39	1.35
8. Assist students in entering programs of advanced occupational training or education	16.00 3.38	17.12 3.79	16.81 3.85	15.08 3.12	16.21 3.51	1.05

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[a] Group 1 = Agricultural production instructors.

[b] Group 2 = Agricultural supply and service instructors.

[c] Group 3 = Agricultural power and machinery mechanics instructors.

[d] Group 4 = Horticulture instructors.

Table 84 (Continued)

I. GUIDANCE AND COUNSELING Competency	Group 1 Mean S.D.	Group 2 Mean S.D.	Group 3 Mean S.D.	Group 4 Mean S.D.	Total Mean S.D.	F ratio
9. Assist students in securing permanent employment	15.86 5.31	18.24 3.68	15.38 4.44	15.62 5.19	16.17 4.93	1.27
10. Assist students in developing appropriate study practices	15.08 4.62	16.06 5.63	16.58 3.83	15.15 5.49	15.48 4.77	0.40
11. Design, conduct, interpret, and use follow-up studies of program enrollees and graduates	14.63 5.54	14.47 3.39	16.44 4.18	13.62 4.37	14.95 4.86	0.96
12. Develop and maintain a relationship with and use student personnel services	14.80 4.29	15.65 3.77	15.94 4.65	12.92 4.44	14.88 4.32	1.41
13. Counsel and advise parents	13.47 5.65	12.24 5.15	13.19 5.66	10.62 6.33	12.81 5.66	0.96

Table 85. Means, standard deviations and F ratios for in-service need indicator of professional education competencies (Job Management) as perceived among participants grouped by agricultural program assigned

J. JOB MANAGEMENT Competency	Group 1[a] Mean S.D.	Group 2[b] Mean S.D.	Group 3[c] Mean S.D.	Group 4[d] Mean S.D.	Total Mean S.D.	F ratio
1. Develop and implement appropriate safety procedures	17.61 3.55	18.65 4.12	18.75 3.49	16.77 3.61	17.87 3.66	1.04
2. Develop and communicate rules, procedures and acceptable standards of student behavior	16.80 3.61	18.29 3.75	17.38 3.88	15.46 3.82	16.98 3.74	1.54
3. Select and follow procedures in obtaining appropriate reference materials for students and staff	16.39 4.16	18.18 3.49	17.81 3.37	16.00 3.51	16.89 3.87	1.45
4. Develop a system for filing and records management	16.92 4.37	17.70 3.88	16.94 3.75	15.15 4.00	16.82 4.14	0.98
5. Develop and maintain a positive working relationship with the administration	16.53 3.66	17.47 3.57	17.56 3.69	15.00 4.47	16.66 3.79	1.43
6. Maintain safe, orderly, clean program facilities and equipment	16.22 4.01	17.18 4.43	18.00 4.03	15.08 3.64	16.54 4.08	1.50
7. Purchase appropriate equipment and materials	16.53 3.72	17.00 4.12	17.06 3.70	14.69 4.11	16.45 3.85	1.17
8. Interpret and adhere to area school policy	15.82 4.23	16.82 3.61	17.75 3.49	14.92 4.94	16.20 4.15	1.44

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[a] Group 1 = Agricultural production instructors.

[b] Group 2 = Agricultural supply and service instructors.

[c] Group 3 = Agricultural power and machinery mechanics instructors.

[d] Group 4 = Horticulture instructors.

Table 85 (Continued)

J. JOB MANAGEMENT Competency	Group 1 Mean S.D.	Group 2 Mean S.D.	Group 3 Mean S.D.	Group 4 Mean S.D.	Total Mean S.D.	F ratio
9. Maintain necessary reports required by area school administrators, state agencies, and federal programs	14.96 5.14	17.65 3.53	17.31 3.32	12.25 4.29	15.50 4.76	4.45** 2,3 > 4; 2 > 1
10. Plan and prepare budgets for occupational program	14.67 4.62	16.65 4.37	15.25 5.80	13.15 6.08	14.92 5.03	1.28
11. Use formalized criteria in selection and obtaining equipment, materials, and supplies for instructional purposes	14.53 4.98	15.35 4.47	14.81 5.97	13.46 5.09	14.58 5.04	0.35

**Significant at the .01 level of probability.

Table 86. Means, standard deviations and F ratios for in-service need indicator of grouped professional education competencies as perceived among participants grouped by agricultural program assigned

Professional education competency group	Group 1[a] Mean S.D.	Group 2[b] Mean S.D.	Group 3[c] Mean S.D.	Group 4[d] Mean S.D.	Total Mean S.D.	F ratio
1. Instructional activities - execution	16.69 2.60	17.35 2.84	17.25 3.39	16.49 2.50	16.87 2.74	0.42
2. Job management	16.09 3.20	17.36 2.79	17.15 2.86	14.65 2.68	16.32 3.08	2.39
3. Instructional activities - planning	15.82 2.52	16.29 2.20	16.93 2.45	15.71 2.82	16.09 2.50	0.97
4. Coordination--on-the-job	16.11 3.77	17.53 3.04	15.52 3.17	14.83 3.19	16.08 3.52	1.69
5. Guidance and counseling	15.96 2.97	16.38 2.74	16.73 2.96	15.15 2.24	16.05 2.84	0.83
6. Instructional activities - evaluation	15.56 3.01	16.55 2.90	16.28 2.66	16.57 1.90	15.99 2.80	0.86
7. Area school-community relations	15.57 3.47	16.13 3.18	16.30 2.87	13.72 1.61	15.56 3.19	1.84
8. Student activities	15.42 3.21	15.89 2.88	16.03 2.81	14.67 2.39	15.50 2.97	0.62
9. Professional role	14.90 3.27	16.44 2.43	16.03 3.01	13.64 2.49	15.17 3.08	2.62*
10. Program planning	15.00 3.20	15.57 3.14	15.41 2.68	13.84 2.12	15.00 2.98	0.96

[a] Group 1 = Agricultural production instructors.

[b] Group 2 = Agricultural supply and service instructors.

[c] Group 3 = Agricultural power and machinery mechanics instructors.

[d] Group 4 = Horticulture instructors.

*Significant at the .05 level of probability.

Ratings of Methods for Delivering Professional In-Service Education

One of the objectives of this study was to identify alternative methods and procedures for delivering professional in-service education programs to area school agriculture instructors and department heads. Part IV of the survey listed the 10 professional education competency groups. In columns to the right of these were six alternative methods for delivering professional in-service education. Participants were requested to rank the delivery systems for each competency group from 1 to 6 (1 represented the best method, and 6 represented the least effective method). These rankings were then transformed to a 6-point rating scale for purposes of analyzing the data (i.e., rank of 1 = rating score of 6; rank of 2 = rating score of 5, etc.). Mean rating scores were caluclated for each professional competency group and comparative analyses among participant groups were made using analysis of variance.

Tables 87 through 96 present the means, standard deviations and F ratios for the ratings of methods for delivering in-service education for each of the competency groups. Comparisons were made among staff title groups to determine if there are significant differences in the mean ratings received for each method of delivery. For each competency group, the in-service delivery methods are listed by rank according to the total mean rating received for each delivery method.

Significant differences were observed among the participants when grouped by their staff title for 13 of the analyses calculated. The professional education competency group and in-service delivery methods where differences were observed are as follows:

Instructional Activities - Planning

1. Iowa State University agricultural education in-service workshop. Area school department heads rated this method significantly (P < .05) higher than did area school instructors for the above competency group.

Instructional Activities - Execution

1. Area school in-service workshop. Area school instructors--program coordinators rated this method significantly (P < .05) higher than did area school instructors for the above competency group.

Instructional Activities - Evaluation

1. Iowa State University agricultural education in-service workship. A significantly (P < .05) greater mean rating was observed for program coordinators than for area school instructors.

Program Planning

1. Iowa State University agricultural education in-service workshop. The mean rating for area school department heads was significantly (P <.01) greater than the mean rating observed for area school instructors.
2. Self-improvement. The mean rating for instructors was significantly (P <.05) greater than the mean rating received from department heads.

Coordination--on-the-job

1. Area school in-service workshop. Program coordinators rated

this method significantly ($P < .05$) higher than did instructors for the above competency group.

2. Iowa State University agricultural education in-service workshop. This method of delivery received a significantly ($P < .01$) higher rating from department heads than from instructors for the above competency group.
3. Supervised independent study. A significantly ($P < .05$) higher rating was received from instructors than from department heads for this method of delivery for the above competency group.

Area School - Community Relations

1. Area school in-service workshop. Program coordinators and department heads rated this method significantly ($P < .01$) higher than did instructors for the above competency group.
2. Iowa State University agricultural education in-service workshop. The mean rating received by department heads was significantly ($P < .01$) greater than the mean rating received by instructors for the above competency group.

Student Activities

1. Self-improvement. This method of delivery received a significantly ($P < .01$) greater mean rating from program coordinators and department heads when compared to the mean rating received from instructors.
2. Iowa State University agricultural education in-service workshop. The mean rating received from department heads was significantly ($P < .05$) greater than the mean rating received from instructors.

Table 87. Means, standard deviations and F ratios for ratings of methods for delivering professional in-service education (Instructional Activities - Planning) as perceived among participants grouped by their staff title

In-service delivery method	Group 1[a] Mean S.D.	Group 2[b] Mean S.D.	Group 3[c] Mean S.D.	Total Mean S.D.	F ratio
1. Area school in-service workshop	4.37 1.68	5.10 1.25	4.07 1.44	4.46 1.60	2.23
2. Iowa State University agricultural education in-service workshop	3.83 1.38	4.37 1.12	4.87 1.46	4.08 1.39	4.19* 3 > 1
3. Professional graduate course(s) in agricultural education at Iowa State University	3.63 1.59	3.16 1.57	3.87 1.68	3.58 1.60	0.93
4. Supervised independent study	3.32 1.61	3.21 1.69	2.67 1.40	3.21 1.60	1.05
5. Professional graduate course(s) in education	2.83 1.60	2.68 1.20	3.33 1.63	2.86 1.54	0.84
6. Self improvement	3.07 1.95	2.53 1.90	2.67 1.53	2.86 1.90	1.48

[a] Area school instructors.

[b] Area school instructors--program coordinators.

[c] Area school department heads.

[*] Significant at the .05 level of probability.

Table 88. Means, standard deviations and F ratios for ratings of methods for delivering professional in-service education (Instructional Activities - Execution) as perceived among participants grouped by their staff title

In-service delivery method	Group 1[a] Mean S.D.	Group 2[b] Mean S.D.	Group 3[c] Mean S.D.	Total Mean S.D.	F ratio
1. Area school in-service workshop	4.14 1.70	5.15 1.35	4.87 1.46	4.43 1.65	3.70* 2 > 1
2. Iowa State University agricultural education in-service workshop	3.57 1.35	4.16 1.26	4.27 1.53	3.78 1.38	2.52
3. Professional graduate course(s) in agricultural education at Iowa State University	3.64 1.62	3.10 1.33	3.53 1.64	3.53 1.58	0.87
4. Self improvement	3.58 1.97	3.00 2.03	2.80 1.70	3.36 1.95	1.42
5. Supervised independent study	3.48 1.56	3.10 1.76	2.93 1.28	3.33 1.57	0.99
6. Professional graduate course(s) in education	2.67 1.72	2.47 1.17	2.60 1.64	2.62 1.61	0.11

[a] Area school instructors.

[b] Area school instructors--program coordinators.

[c] Area school department heads.

*Significant at the .05 level of probability.

Table 89. Means, standard deviations and F ratios for ratings of methods for delivering professional in-service education (Instructional Activities - Evaluation) as perceived among participants grouped by their staff title

In-service delivery method	Group 1[a] Mean S.D.	Group 2[b] Mean S.D.	Group 3[c] Mean S.D.	Total Mean S.D.	F ratio
1. Area school in-service workshop	4.21 1.68	5.05 1.10	4.53 1.81	4.42 1.63	2.17
2. Iowa State University agricultural education in-service workshop	3.81 1.44	4.84 1.42	4.13 1.55	4.05 1.49	3.78* 2 > 1
3. Professional graduate course(s) in agricultural education at Iowa State University	3.68 1.66	3.79 1.36	3.93 1.28	3.74 1.55	0.17
4. Supervised independent study	3.38 1.63	2.58 1.43	3.07 1.39	3.19 1.58	2.02
5. Self improvement	3.10 1.71	2.26 1.48	2.60 1.64	2.86 1.68	2.13
6. Professional graduate course(s) in education	2.88 1.81	2.47 1.17	2.73 1.83	2.79 1.71	0.44

[a] Area school instructors.

[b] Area school instructors--program coordinators.

[c] Area school department heads.

*Significant at the .05 level of probability.

Table 90. Means, standard deviations and F ratios for ratings of methods for delivering professional in-service education (Program Planning) as perceived among participants grouped by their staff title

In-service delivery method	Group 1[a] Mean S.D.	Group 2[b] Mean S.D.	Group 3[c] Mean S.D.	Total Mean S.D.	F ratio
1. Area school in-service workshop	4.54 1.51	5.25 1.29	5.13 0.74	4.76 1.41	2.64
2. Iowa State University agricultural education in-service workshop	3.70 1.38	4.37 1.42	5.00 1.07	4.01 1.42	6.62** 3 > 1
3. Professional graduate course(s) in agricultural education at Iowa State University	3.33 1.62	3.32 1.34	3.93 1.28	3.42 1.53	0.90
4. Supervised independent study	3.32 1.51	3.26 1.59	2.60 1.24	3.20 1.50	1.45
5. Self improvement	3.51 1.91	2.74 1.48	2.27 1.49	3.18 1.84	3.69* 1 > 3
6. Professional graduate course(s) in education	2.62 1.72	2.10 1.24	2.07 1.22	2.45 1.58	1.31

[a] Area school instructors.

[b] Area school instructors--program coordinators.

[c] Area school department heads.

*Significant at the .05 level of probability.

**Significant at the .01 level of probability.

Table 91. Means, standard deviations and F ratios for ratings of methods for delivering professional in-service education (Coordination-on-the Job) as perceived among participants grouped by their staff title

In-service delivery method	Group 1[a] Mean S.D.	Group 2[b] Mean S.D.	Group 3[c] Mean S.D.	Total Mean S.D.	F ratio
1. Area school in-service workshop	4.61 1.53	5.45 0.76	5.33 0.98	4.86 1.38	4.05* 2 > 1
2. Self improvement	3.94 1.70	3.58 1.90	2.87 1.55	3.72 1.74	2.50
3. Iowa State University agricultural education in-service workshop	3.46 1.20	3.95 1.35	4.47 1.25	3.70 1.28	4.58** 3 > 1
4. Supervised independent study	3.84 1.45	3.53 1.26	2.87 1.25	3.64 1.42	3.07* 1 > 3
5. Professional graduate course(s) in agricultural education at Iowa State University	3.03 1.57	2.74 1.37	3.67 1.45	3.07 1.53	1.64
6. Professional graduate course(s) in education	2.19 1.72	1.79 1.08	1.80 1.26	2.06 1.56	0.72

[a] Area school instructors.

[b] Area school instructors--program coordinators.

[c] Area school department heads.

*Significant at the .05 level of probability.

**Significant at the .01 level of probability.

Table 92. Means, standard deviations and F ratios for ratings of methods for delivering professional in-service education (Area School - Community Relations) as perceived among participants grouped by their staff title

In-service delivery method	Group 1[a] Mean S.D.	Group 2[b] Mean S.D.	Group 3[c] Mean S.D.	Total Mean S.D.	F ratio
1. Area school in-service workshop	5.10 1.23	5.80 0.52	5.80 0.41	5.33 1.09	5.21** 2,3 > 1
2. Self improvement	4.04 1.73	3.42 1.86	3.07 1.71	3.79 1.77	2.43
3. Iowa State University agricultural education in-service workshop	3.32 1.45	3.58 1.22	4.47 0.99	3.53 1.40	4.44** 3 > 1
4. Supervised independent study	3.39 1.56	3.42 1.26	3.13 1.19	3.36 1.45	0.21
5. Professional graduate course(s) in agricultural education at Iowa State University	2.80 1.20	2.58 1.17	3.00 1.00	2.79 1.16	0.56
6. Professional graduate course(s) in education	2.36 1.58	2.05 1.40	1.53 0.92	2.18 1.49	2.03

[a] Area school instructors.

[b] Area school instructors--program coordinators.

[c] Area school department heads.

[**] Significant at the .01 level of probability.

Table 93. Means, standard deviations and F ratios for ratings of methods for delivering professional in-service education (Student Activities) as perceived among participants grouped by their staff title

In-service delivery method	Group 1[a] Mean S.D.	Group 2[b] Mean S.D.	Group 3[c] Mean S.D.	Total Mean S.D.	F ratio
1. Area school in-service workshop	5.04 1.34	5.30 0.98	5.07 1.28	5.10 1.26	0.32
2. Self improvement	4.23 1.62	3.16 1.95	3.00 1.65	3.85 1.76	5.27** 2,3 > 1
3. Iowa State University agricultural education in-service workshop	3.34 1.41	3.95 1.43	4.27 1.67	3.59 1.48	3.22* 3 > 1
4. Supervised independent study	3.57 1.54	3.05 1.62	2.93 1.33	3.38 1.54	1.63
5. Professional graduate course(s) in agricultural education at Iowa State University	2.68 1.08	3.21 1.44	3.27 1.44	2.86 1.22	2.42
6. Professional graduate course(s) in education	2.20 1.57	2.37 1.30	2.47 1.64	2.27 1.52	0.23

[a] Area school instructors.

[b] Area school instructors--program coordinators.

[c] Area school department heads.

*Significant at the .05 level of probability.

**Significant at the .01 level of probability.

Table 94. Means, standard deviations and F ratios for ratings of methods for delivering professional in-service education (Professional Role) as perceived among participants grouped by their staff title

In-service delivery method	Group 1[a] Mean S.D.	Group 2[b] Mean S.D.	Group 3[c] Mean S.D.	Total Mean S.D.	F ratio
1. Area school in-service workshop	4.06 1.58	4.40 1.31	3.73 1.87	4.08 1.57	0.78
2. Self improvement	3.86 1.89	3.68 2.19	3.33 1.88	3.75 1.93	0.46
3. Iowa State University agricultural education in-service workshop	3.38 1.50	3.32 1.53	4.13 1.64	3.46 1.54	1.63
4. Professional graduate course(s) in agricultural education at Iowa State University	3.46 1.68	3.26 1.69	3.67 1.91	3.46 1.70	0.23
5. Supervised independent study	3.30 1.54	3.68 1.67	3.60 1.50	3.42 1.55	0.56
6. Professional graduate course(s) in education	2.96 1.86	2.68 1.49	2.73 1.53	2.86 1.74	0.24

[a] Area school instructors.

[b] Area school instructors--program coordinators

[c] Area school department heads.

Table 95. Means, standard deviations and F ratios for ratings of methods for delivering professional in-service education (Guidance and Counseling) as perceived among participants grouped by their staff title

In-service delivery method	Group 1[a] Mean S.D.	Group 2[b] Mean S.D.	Group 3[c] Mean S.D.	Total Mean S.D.	F ratio
1. Area school in-service workshop	4.19 1.53	4.25 1.65	4.33 1.05	4.22 1.48	0.06
2. Professional graduate course(s) in education	3.99 2.00	3.74 2.00	4.27 1.83	3.98 1.96	0.30
3. Professional graduate course(s) in agricultural education at Iowa State University	3.78 1.66	4.00 1.33	3.93 1.75	3.84 1.60	0.17
4. Iowa State University agricultural education in-service workshop	3.59 1.35	4.21 1.51	4.07 1.58	3.77 1.43	1.81
5. Supervised independent study	3.01 1.47	2.53 1.17	2.27 1.10	2.82 1.39	2.34
6. Self improvement	2.56 1.63	2.37 1.64	2.13 1.41	2.47 1.60	0.49

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[a] Area school instructors.

[b] Area school instructors--program coordinators.

[c] Area school department heads.

Table 96. Means, standard deviations and F ratios for ratings of methods for delivering professional in-service education (Job Management) as perceived among participants grouped by their staff title

In-service delivery method	Group 1[a] Mean S.D.	Group 2[b] Mean S.D.	Group 3[c] Mean S.D.	Total Mean S.D.	F ratio
1. Iowa State University agricultural education in-service workshop	4.58 1.45	4.85 1.66	5.53 0.92	4.77 1.46	2.74
2. Professional graduate course(s) in agricultural education at Iowa State University	3.65 1.50	4.26 1.24	4.40 1.24	3.87 1.45	2.57
3. Self improvement	3.78 1.85	3.42 1.98	2.93 1.58	3.59 1.85	1.41
4. Supervised independent study	3.48 1.62	3.32 1.42	2.80 1.21	3.35 1.54	1.21
5. Professional graduate course(s) in education	2.96 1.29	3.26 1.37	3.13 1.41	3.04 1.31	0.45
6. Area school in-service workshop	2.56 1.63	2.37 1.64	2.13 1.41	2.47 1.60	0.49

[a] Area school instructors.

[b] Area school instructors--program coordinators.

[c] Area school department heads.

Tables 97 through 106 report the means, standard deviations and F ratios for the ratings of methods for delivering in-service education for each of the competency groups when comparisons were made among participants' agricultural program area assigned. For each professional education competency group, the in-service delivery methods are listed by rank according to the total mean rating received for each delivery method. These ranks may vary somewhat from the ranks presented previously for grouped comparisons by staff title. This variation would be due to the fact that department heads would not be included in these analyses if they did not indicate they were assigned to a particular agricultural program area for major teaching responsibilities.

Significant differences were observed among instructor agricultural program areas for five of the analyses calculated. The competency group and in-service delivery methods where differences were observed are as follows:

Instructional Activities - Planning

1. Area school in-service workshop. Mechanics instructors rated this method significantly ($P < .01$) higher than did production and supply, and service instructors for the above competency group.

Program Planning

1. Area school in-service workshop. A significantly ($P < .05$) higher mean rating was observed for supply and service, and mechanics instructors when compared to the mean rating received from production instructors.

Area School - Community Relations

1. Area school in-service workshop. Supply and service instructors rated this method significantly ($P < .05$) higher than did production and mechanics instructors.

Student Activities

1. Professional graduate course(s) in agricultural education at Iowa State University. This method of delivery was rated significantly ($P < .05$) higher by production instructors than by supply and service and mechanics instructors.

Guidance and Counseling

1. Professional graduate course(s) in agricultural education at Iowa State University. Production instructors rated this method significantly ($P < .05$) higher than did mechanis instructors.

Table 97. Means, standard deviations and F ratios for ratings of methods for delivering professional in-service education (Instructional Activities - Planning) as perceived among participants grouped by agricultural program assigned

In-service delivery method	Group 1[a] Mean S.D.	Group 2[b] Mean S.D.	Group 3[c] Mean S.D.	Group 4[d] Mean S.D.	Total Mean S.D.	F ratio
1. Area school in-service workshop	4.00 1.67	4.80 1.57	5.47 1.07	4.92 1.32	4.52 1.60	4.61** 3 >1,2
2. Iowa State University agricultural education in-service workshop	4.22 1.48	3.93 1.44	3.76 1.25	3.58 0.90	4.01 1.37	0.98
3. Professional graduate course(s) in agricultural education at Iowa State University	3.71 1.55	3.71 1.90	2.88 1.17	3.58 1.62	3.54 1.56	1.28
4. Supervised independent study	3.20 1.68	3.07 1.14	3.24 1.60	3.69 1.84	3.26 1.61	0.39
5. Self improvement	2.92 1.96	2.50 1.91	2.83 2.01	3.31 1.97	2.89 1.94	0.39
6. Professional graduate course(s) in education	2.92 1.51	3.07 1.54	2.82 1.51	2.17 1.47	2.83 1.51	0.95

[a] Group 1 = Agricultural production instructors.

[b] Group 2 = Agricultural supply and service instructors.

[c] Group 3 = Agricultural power and machinery mechanics instructors.

[d] Group 4 = Horticulture instructors.

[**] Significant at the .01 level of probability.

Table 98. Means, standard deviations and F ratios for ratings of methods for delivering professional in-service education (Instructional Activities - Execution) as perceived among participants grouped by agricultural program assigned

In-service delivery method	Group 1[a] Mean S.D.	Group 2[b] Mean S.D.	Group 3[c] Mean S.D.	Group 4[d] Mean S.D.	Total Mean S.D.	F ratio
1. Area school in-service workshop	4.06 1.72	4.20 1.66	5.24 1.30	4.77 1.54	4.39 1.66	2.52
2. Iowa State University agricultural education in-service workshop	3.90 1.29	3.21 1.62	3.94 1.52	3.58 1.08	3.76 1.37	1.08
3. Professional graduate course(s) in agricultural education at Iowa State University	3.73 1.52	3.57 1.99	2.94 1.25	3.42 1.50	3.52 1.56	1.12
4. Self improvement	3.56 1.99	3.57 2.14	2.94 1.75	3.46 2.11	3.43 1.97	0.44
5. Supervised independent study	3.22 1.67	3.71 1.44	3.35 1.54	3.62 1.61	3.38 1.59	0.45
6. Professional graduate course(s) in education	2.55 1.67	2.86 1.41	2.59 1.62	2.42 1.73	2.58 1.61	0.18

[a] Group 1 = Agricultural production instructors.

[b] Group 2 = Agricultural supply and service instructors.

[c] Group 3 = Agricultural power and machinery mechanics instructors.

[d] Group 4 = Horticulture instructors.

Table 99. Means, standard deviations and F ratios for ratings of methods for delivering professional in-service education (Instructional Activities - Evaluation) as perceived among participants grouped by agricultural program assigned

In-service delivery method	Group 1[a]		Group 2[b]		Group 3[c]		Group 4[d]		Total		F ratio
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	
1. Area school in-service workshop	4.14	1.64	4.27	1.28	5.18	1.51	4.62	1.61	4.41	1.59	1.95
2. Iowa State University agricultural education in-service workshop	4.31	1.42	3.50	1.79	3.70	1.53	4.17	1.19	4.05	1.48	1.48
3. Professional graduate course(s) in agricultural education at Iowa State University	3.71	1.54	4.36	1.64	3.00	1.50	3.83	1.58	3.70	1.58	2.01
4. Supervised independent study	3.10	1.72	2.86	1.41	3.65	1.32	3.46	1.71	3.22	1.61	0.82
5. Self improvement	3.10	1.64	2.64	1.90	2.94	1.82	2.62	1.71	2.93	1.71	0.44
6. Professional graduate course(s) in education	2.63	1.73	3.50	1.83	2.53	1.42	2.67	1.72	2.75	1.69	1.10

[a] Group 1 = Agricultural production instructors.

[b] Group 2 = Agricultural supply and service instructors.

[c] Group 3 = Agricultural power and machinery mechanics instructors.

[d] Group 4 = Horticulture instructors.

Table 100. Means, standard deviations and F ratios for ratings of methods for delivering professional in-service education (Program Planning) as perceived among participants grouped by agricultural program assigned

In-service delivery method	Group 1[a] Mean S.D.	Group 2[b] Mean S.D.	Group 3[c] Mean S.D.	Group 4[d] Mean S.D.	Total Mean S.D.	F ratio
1. Area school in-service workshop	4.26 1.56	5.33 1.05	5.12 1.45	5.08 1.00	4.70 1.47	3.34* 2,3 > 1
2. Iowa State University agricultural education in-service workshop	4.14 1.26	3.64 1.55	3.24 1.48	4.09 1.64	3.89 1.42	2.01
3. Professional graduate course(s) in agricultural education at Iowa State University	3.55 1.65	3.28 1.33	2.82 1.38	3.26 1.57	3.35 1.54	0.94
4. Self improvement	3.54 1.92	3.14 1.88	3.06 1.85	3.17 1.70	3.34 1.86	0.40
5. Supervised independent study	3.00 1.56	2.86 1.56	3.88 1.11	3.83 1.58	3.25 1.52	2.41
6. Professional graduate course(s) in education	2.45 1.58	2.78 1.72	2.88 1.90	1.73 0.90	2.49 1.62	1.33

[a] Group 1 = Agricultural production instructors.

[b] Group 2 = Agricultural supply and service instructors.

[c] Group 3 = Agricultural power and machinery mechanics instructors.

[d] Group 4 = Horticulture instructors.

*Significant at the .05 level of probability.

Table 101. Means, standard deviations and F ratios for ratings of methods for delivering professional in-service education (Coordination--on-the-Job) as perceived among participants grouped by agricultural program assigned

In-service delivery method	Group 1[a] Mean S.D.	Group 2[b] Mean S.D.	Group 3[c] Mean S.D.	Group 4[d] Mean S.D.	Total Mean S.D.	F ratio
1. Area school in-service workshop	4.60 1.67	4.60 1.18	5.44 0.96	5.08 0.86	4.82 1.42	1.67
2. Self improvement	3.81 1.77	4.50 1.95	3.44 1.46	3.62 1.76	3.83 1.75	1.02
3. Supervised independent study	3.51 1.46	4.00 1.11	3.62 1.59	4.31 1.38	3.72 1.43	1.28
4. Iowa State University agricultural education in-service workshop	3.73 1.32	3.14 1.17	3.56 1.15	3.67 1.30	3.60 1.26	0.79
5. Professional graduate course(s) in agricultural education at Iowa State University	3.18 1.51	2.36 1.45	2.75 1.61	3.25 1.48	2.99 1.52	1.33
6. Professional graduate course(s) in education	2.21 1.58	2.50 1.99	2.12 1.62	1.25 0.62	2.11 1.59	1.54

[a] Group 1 = Agricultural production instructors.

[b] Group 2 = Agricultural supply and service instructors.

[c] Group 3 = Agricultural power and machinery mechanics instructors.

[d] Group 4 = Horticulture instructors.

Table 102. Means, standard deviations and F ratios for ratings of methods for delivering professional in-service education (Area School - Community Relations) as perceived among participants grouped by agricultural program assigned

In-service delivery method	Group 1[a] Mean S.D.	Group 2[b] Mean S.D.	Group 3[c] Mean S.D.	Group 4[d] Mean S.D.	Total Mean S.D.	F ratio
1. Area school in-service workshop	4.96 1.31	5.73 0.59	5.44 0.96	5.62 0.77	5.26 1.13	2.73* 2 > 1,3
2. Self improvement	3.94 1.81	3.86 1.99	3.78 1.89	4.31 1.32	3.88 1.79	0.68
3. Iowa State University agricultural education in-service workshop	3.51 1.60	3.28 1.20	3.25 1.29	3.42 1.08	3.42 1.41	0.18
4. Supervised independent study	3.23 1.42	3.64 1.35	3.50 1.67	3.54 1.66	3.38 1.48	0.39
5. Professional graduate course(s) in agricultural education at Iowa State University	3.08 1.29	2.36 0.93	2.44 0.96	2.42 1.00	2.77 1.18	2.61
6. Professional graduate course(s) in education	2.26 1.55	2.14 1.67	2.88 1.80	1.58 1.16	2.27 1.53	1.80

[a] Group 1 = Agricultural production instructors.

[b] Group 2 = Agricultural supply and service instructors.

[c] Group 3 = Agricultural power and machinery mechanics instructors.

[d] Group 4 = Horticulture instructors.

* Significant at the .05 level of probability.

Table 103. Means, standard deviations and F ratios for ratings of methods for delivering professional in-service education (Student Activities) as perceived among participants grouped by agricultural program assigned

In-service delivery method	Group 1[a] Mean S.D.	Group 2[b] Mean S.D.	Group 3[c] Mean S.D.	Group 4[d] Mean S.D.	Total Mean S.D.	F ratio
1. Area school in-service workshop	4.85 1.46	5.13 1.24	5.63 0.50	5.31 0.95	5.10 1.26	1.70
2. Self improvement	4.00 1.76	4.50 1.74	3.44 1.59	4.00 1.78	3.98 1.73	0.94
3. Iowa State University agricultural education in-service workshop	3.60 1.55	3.14 1.29	3.44 1.55	3.42 1.16	3.48 1.46	0.37
4. Supervised independent study	3.36 1.57	3.78 1.53	3.12 1.67	3.77 1.36	3.44 1.54	0.68
5. Professional graduate course(s) in agricultural education at Iowa State University	3.08 1.20	2.21 0.98	2.44 0.96	2.75 1.42	2.79 1.20	2.65* 1 > 2,3
6. Professional graduate course(s) in education	2.17 1.48	2.28 1.38	2.82 1.81	1.95 1.56	2.27 1.54	1.01

[a] Group 1 = Agricultural production instructors.

[b] Group 2 = Agricultural supply and service instructors.

[c] Group 3 = Agricultural power and machinery mechanics instructors.

[d] Group 4 = Horticulture instructors.

*Significant at the .05 level of probability.

Table 104. Means, standard deviations and F ratios for ratings of methods for delivering professional in-service education (Professional Role) as perceived among participants grouped by agricultural program assigned

In-service delivery method	Group 1[a] Mean S.D.	Group 2[b] Mean S.D.	Group 3[c] Mean S.D.	Group 4[d] Mean S.D.	Total Mean S.D.	F ratio
1. Area school in-service workshop	4.02 1.46	3.93 1.58	4.50 1.75	4.38 1.32	4.14 1.51	0.61
2. Self improvement	3.94 2.07	4.21 1.89	3.12 1.71	3.62 1.71	3.79 1.94	0.98
3. Professional graduate course(s) in agricultural education at Iowa State University	3.51 1.73	3.36 1.45	3.38 1.59	3.08 2.06	3.41 1.69	0.21
4. Iowa State University agricultural education in-service workshop	3.35 1.44	2.86 1.70	4.06 1.61	3.33 1.37	3.40 1.52	1.67
5. Supervised independent study	3.27 1.48	3.36 1.74	3.07 1.44	4.08 1.66	3.36 1.54	1.19
6. Professional graduate course(s) in education	2.90 1.79	3.36 1.86	2.76 1.82	2.75 1.86	2.92 1.80	0.35

[a] Group 1 = Agricultural production instructors.

[b] Group 2 = Agricultural supply and service instructors.

[c] Group 3 = Agricultural power and machinery mechanics instructors.

[d] Group 4 = Horticulture instructors.

Table 105. Means, standard deviations and F ratios for ratings of methods for delivering professional in-service education (Guidance and Counseling) as perceived among participants grouped by agricultural program assigned

In-service delivery method	Group 1[a] Mean S.D.	Group 2[b] Mean S.D.	Group 3[c] Mean S.D.	Group 4[d] Mean S.D.	Total Mean S.D.	F ratio
1. Area school in-service workshop	3.96 1.49	4.27 1.28	4.75 1.73	4.38 1.66	4.21 1.53	1.17
2. Professional graduate course(s) in education	4.00 1.95	4.28 2.20	3.53 1.91	4.00 2.04	3.96 1.97	0.40
3. Professional graduate course(s) in agricultural education at Iowa State University	4.23 1.64	3.36 1.50	3.19 1.47	3.33 1.61	3.79 1.63	2.67* 1 > 3
4. Iowa State University agricultural education in-service workshop	3.77 1.29	4.00 1.80	3.62 1.31	3.08 1.44	3.69 1.40	1.04
5. Supervised independent study	2.69 1.39	2.93 1.27	3.19 1.52	3.46 1.45	2.92 1.41	1.28
6. Self improvement	2.48 1.60	2.28 1.44	2.56 1.78	3.08 1.93	2.55 1.65	0.58

[a] Group 1 = Agricultural production instructors.

[b] Group 2 = Agricultural supply and service instructors.

[c] Group 3 = Agricultural power and machinery mechanics instructors.

[d] Group 4 = Horticulture instructors.

Table 106. Means, standard deviations and F ratios for ratings of methods for delivering professional in-service education (Job Management) as perceived among participants grouped by agricultural program assigned

In-service delivery method	Group 1[a] Mean S.D.	Group 2[b] Mean S.D.	Group 3[c] Mean S.D.	Group 4[d] Mean S.D.	Total Mean S.D.	F ratio
1. Iowa State University agricultural education in-service workshop	4.63 1.44	4.93 1.28	4.25 1.95	4.92 1.32	4.66 1.49	0.70
2. Professional graduate course(s) in agricultural education at Iowa State University	3.81 1.51	3.86 1.66	3.19 1.28	4.42 1.08	3.79 1.46	1.69
3. Self improvement	3.25 1.56	3.78 1.42	3.44 1.63	3.62 1.71	3.42 1.56	0.50
4. Professional graduate course(s) in education	3.06 1.78	2.78 1.25	3.06 1.39	3.25 1.36	3.04 1.34	0.26
5. Area school in-service workshop	2.48 1.60	2.28 1.44	2.56 1.79	3.08 1.93	2.55 1.65	0.58
6. Supervised independent study	2.43 1.62	2.50 1.56	3.00 2.00	1.58 1.16	2.43 1.66	1.76

[a] Group 1 = Agricultural production instructors.

[b] Group 2 = Agricultural supply and service instructors.

[c] Group 3 = Agricultural power and machinery mechanics instructors.

[d] Group 4 = Horticulture instructors.

SUMMARY AND DISCUSSION

The primary purpose of this study was to identify the professional in-service education needs of agriculture instructors in Iowa postsecondary area vocational schools. Also investigated were the initial and present employment characteristics of these instructors and department heads.

The population for the study consisted of all of the Iowa community college and vocational-technical school agriculture instructors and their department heads. A sample of 100 percent of the population was obtained from identified instructors and department heads and consisted of the following:

1. Full-time agriculture instructors in Iowa postsecondary area vocational schools with primary responsibilities in one of the following program areas: agricultural production, agriculture supply and service, agricultural power and machinery mechanics, and horticulture.
2. Area school instructors--program coordinators.
3. Department heads with primary responsibility for administering and staffing agricultural programs in Iowa area schools.

The data for this study were collected by administering a survey instrument to the sample during a scheduled visit by the project staff to each of the fifteen area vocational schools which offer agricultural programs. The instrument contained demographic data and a list of 105 professional education competencies arranged by competency groups. A rating scale was utilized to ascertain the in-service need for each competency and each group of competencies. Comparisons were also made among participants grouped by their staff title and by their agricultural program assigned.

Data from the survey instrument were tabulated and transferred to appropriate code sheets for processing. The data were analyzed using computer facilities at the Computation Center, Iowa State University. The statistics used in analyzing the data included the chi-square and analysis of variance using the F-ratio.

Characteristics of Instructors and Department Heads

The participants of this study were requested to indicate their current title on the staff. Over 65 percent were instructors and 21.1 percent were instructors who were also program coordinators. Each of the fifteen area schools reported that they had an individual with a staff title of Department Head or Chairman.

Of the 109 instructors and department heads participating, 97 indicated a specific agricultural program to which they were assigned major responsibilities for over 50 percent of the time during the entire year. There were 49 agricultural production instructors, 17 agricultural supply and service instructors, 18 agricultural mechanics instructors and 13 horticulture instructors.

Significant differences in responses among the three staff title groups were observed for the following characteristics:

1. Years taught in current position. Area school program coordinators and department heads reported mean responses of 5.35

years and 6.07 years respectively, which were significantly greater than the mean response of 3.63 years for instructors.

2. *Years secondary vo-ag teaching experience*. The mean years of secondary vo-ag teaching experience was 6.48 for program coordinators and 7.53 for department heads. These were significantly greater than the mean of 1.41 years for instructors.
3. *Total years teaching experience*. Program coordinators and department heads had completed a mean of 9.52 years and 12.0 years respectively. These were significantly greater than the mean years of 4.34 for instructors.
4. *Total years teaching experience needed for current position*. Department heads indicated a mean of 3.53 years experience needed which is significantly greater than the mean of 1.42 years teaching experience needed by instructors.

There were significant differences in responses among the staff grouped by their agricultural program area assigned for the following characteristics:

1. *Participants age*. Agricultural supply and service instructors, and mechanics instructors indicated a significantly greater mean age than did instructors whose major responsibilities were in agricultural production or horticulture.
2. *Years taught in current position*. Agricultural supply and service instructors had taught a significantly greater number of years than had agricultural production and horticulture instructors. Agricultural mechanics instructors had taught more

years than horticulture instructors.

3. Years secondary vo-ag teaching experience. Agricultural supply and service instructors had received a greater number of years experience than agricultural production and agricultural mechanics instructors.
4. Years secondary vo-ag teaching experience needed for current position. Agricultural supply and service instructors indicated a greater number of years experience needed for current position than did instructors in the other areas.
5. Years Iowa Area School teaching experience needed for current position. Agricultural mechanics instructors indicated a greater number of years experience needed than did instructors in the other areas.
6. Years of previous employment in business or industry related to current position. Agricultural mechanics instructors had received a greater number of years previous employment in business or industry related to their current position than did agricultural production and horticulture instructors.
7. Years related employment in business or industry needed for current position. Agricultural mechanics instructors indicated a greater number of years related employment needed for their current position than did agricultural production instructors and agricultural supply and service instructors.

A profile of Iowa area school agriculture instructors and department heads would include the following characteristics:

1. About 40 years of age.

2. Has taught approximately 4.3 years in current position.
3. Received 3.3 years secondary vo-ag teaching experience.
4. Had 1.7 years postsecondary teaching experience upon entering current position.
5. Had completed 6.5 years total teaching experience upon entering current position.
6. About 8.5 years of previous employment in business or industry related to current position.
7. Has completed about 3.8 years of formal education beyond high school

Over 88 percent of the participants of this study had earned a degree higher than a high school diploma. Approximately 54 percent had completed a B.S. degree and 27.8 percent had completed an M.S. degree.

About 45 percent of the area school staff held either a temporary or pre-professional teaching certificate. Many of these individuals have not completed the professional experience and/or formal education and preparation related to professional education competencies, required for professional certification. The majority of instructors possessing less than a professional certificate were agricultural mechanics and horticulture instructors. A significant relationship was found between agricultural program assigned and their present Iowa teaching certificate held.

Almost 18 percent of the participants indicated that at their initial employment, they had completed 10 or less semester credits of technical agriculture related to their specialization of teaching. Over 30 percent of the participants possessed 10 semester credits or less of nonagricultural professional education credits at their initial employment. A significant relationship was observed between instructor's agricultural program area assigned and nonagricultural professional education credits possessed at their initial employment.

About 42 percent of the area school agricultural staff had completed 10 or less credits in agricultural education. However, over 33 percent indicated they had completed more than 30 credits in agricultural education. Almost 41 percent of the participants had completed no supervised student teaching at their initial employment.

It may be concluded from the data that a large percentage of Iowa area school instructors of agriculture have received limited amount of formal training in professional education. They have received considerable training in technical agriculture and related employment experience. However, many instructors have not completed a planned sequence of studies which contained the professional education competencies in the preparation for teaching.

Professional Education Competencies Needed

The competency rating scale contained 105 professional education competencies in ten professional competency groups. Participants were asked to respond to each competency item with regard to its importance in performing as an area school instructor of agriculture. After reading each competency, they were instructed to circle the "A" (agree) if they agree that the competency is an important competency, or "D" (disagree) if they feel the competency is not important in performing as an area school instructor of agriculture. They were then asked to write a number from 1-5 in the blank provided that indicates the degree of certainty they feel about their choice (1 = not very certain and 5 =

very certain). The ratings were then transformed to an 11-point rating scale for analyses. A rating of 11.0 would be the highest rating and 1.0 would be the lowest rating with 6.0 as the midpoint on the scale or average rating.

All of the 105 competencies received a total mean importance rating of 5.29 or above. From this analysis one could infer that all competencies included are at least moderately important in performing the teaching responsibilities as an area school instructor of agriculture. However, to design priority programs of professional in-service education, a closer scrutiny of competencies may be necessary.

It appears that one criteria that may be used to select competencies needed would be to identify those competencies which received a group mean rating of 8.25 or above which would be the upper quartile of the rating scale. Competencies within each competency group receiving a total mean rating of 8.25 or above and listed by mean rank are as follows.

Instructional Activities--Planning

1. Develop real laboratory experiences as an integral part of the instructional program.
2. Select appropriate instructional method(s) for learning situation.
3. Select appropriate textbooks and instructional resource(s) for learning situation.
4. Design and select student learning activities through which students can accomplish stated performance objectives.
5. Develop and write course outlines.

6. Select appropriate audio-visual materials for instructional purposes.
7. Write measurable performance objectives for program and instructional units.
8. Develop simulated laboratory experiences as an integral part of the instructional program.
9. Develop a variety of audio-visual materials for instructional purposes.

Instructional Activities - Execution

1. Maintain effective learning environment.
2. Utilize a variety of instructional methods in program delivery.
3. Employ a variety of individual and group motivational techniques.
4. Employ a variety of instructional resources in program delivery.
5. Relate personal experiences and events to agricultural occupational instruction.
6. Plan, organize and conduct field trips.
7. Develop interest approaches for each instructional period.
8. Utilize a student-centered teaching style.
9. Function as a director of learning process.
10. Summarize daily and unit instruction.

Instructional Activities - Evaluation

1. Assist students in evaluating their own progress.
2. Develop tests and criteria for measuring student performance and progress.
3. Evaluate field trips and laboratory activities.

4. Evaluate own techniques and methods of teaching for effectiveness according to standards of agricultural occupations and based on student needs.
5. Evaluate the overall effectiveness of program in terms of program objectives.
6. Maintain student performance or progress reports and competency records.

Program Planning

1. Select, utilize and maintain agricultural program advisory committee.
2. Determine and develop facilities essential to the program.
3. Develop and analyze agricultural program goals and objectives.
4. Assist administrators in developing and maintaining agricultural program.

Coordination--on-the-Job

1. Maintain liaison with agriculture employment agencies and potential employers.
2. Evaluate objectively student performance on-the-job.
3. Evaluate on-the-job experience programs and experience centers.
4. Supervise students while placed on-the-job.
5. Plan and coordinate on-the-job experience programs.
6. Develop on-the-job training plans for students.
7. Secure on-the-job training stations for students.
8. Select on-the-job training centers.

Area School - Community Relations

1. Work cooperatively with individuals, business and industry in the community.
2. Develop good working relationships with area school personnel and staff.
3. Communicate ideas and concepts to other instructors, area school personnel, and community members.
4. Articulate agricultural program with other agricultural education institutions or programs, such as, vocational agriculture, cooperative extension, and university.
5. Participate in community organizations and activities.
6. Obtain information and materials for update and news releases.
7. Participate in local staff organizations and activities.
8. Work with faculty members on area school committees.
9. Cooperate and work with adult education division.

Student Activities

1. Develop and maintain rapport with students.
2. Recruit and interview students for agricultural programs.
3. Develop and guide special study topics for students.
4. Promote, sponsor, and advise student program or department organizations and activities.

Professional Role

1. Plan a personal program of continuing professional education.
2. Participate in professional organizations related to educational

and technical agriculture areas.

3. Use information contained in professional journals for personal development and improvement of instruction.
4. Adapt your appearance and apparel to acceptable standards for teachers.
5. Interpret the legal responsibilities and liabilities of a teacher.
6. Interpret the goals and objectives of agricultural education.
7. Interpret the philosophy and goals of the area school.

Guidance and Counseling

1. Inform students of the nature and requirements of specific agricultural occupations.
2. Identify students in need of counseling or guidance.
3. Relate to students from different socio-economic backgrounds.
4. Assist students in securing permanent employment.
5. Recognize, interpret and utilize student actions and behaviors.
6. Assist students in entering programs of advanced occupational training or education.
7. Identify students with special needs and counsel with them in utilizing the learning resource center.
8. Use counseling techniques to help students solve personal, social, educational problems.

Job Management

1. Develop and implement appropriate safety procedures.
2. Maintain safe, orderly, clean program facilities and equipment.
3. Develop and maintain a positive working relationship with the

administration.

4. Develop and communicate rules, procedures and acceptable standards of student behavior.
5. Interpret and adhere to area school policy.
6. Purchase appropriate equipment and materials.
7. Develop a system for filing and records management.
8. Select and follow procedures in obtaining appropriate reference materials for students and staff.
9. Maintain necessary reports required by area school administrators, state agencies, and federal programs.

The standard deviation and analysis of variance using the F ratio were calculated for the importance rating of each competency. Comparisons were made among participants when grouped by their staff title and when grouped by their agricultural program area assigned. Significant differences were observed for the following competencies:

1. Plan, organize and conduct field trips. Agricultural mechanics instructors rated this competency to be of less importance in performing their job than the rating received by agricultural production, supply and service and horticulture instructors. This difference can perhaps be attributed to the nature of the programs. Agricultural mechanics laboratories are equipped similar to requirements of business and industry and therefore, less field trips are needed.
2. Develop and analyze agricultural program goals and objectives. Area school instructors and department heads considered this competency to be of greater importance than did area school

instructors who were also serving as program coordinators.

3. *Supervise students while placed on-the-job.* Program coordinators rated this competency higher than did instructors.

4. *Evaluate on-the-job experience programs and experience centers.* Agricultural supply and service instructors rated this competency to be more important than did agricultural mechanics instructors.

5. *Supervise students while placed on-the-job.* Agricultural production, and supply and service instructors placed greater importance on this competency than did agricultural mechanics instructors. This difference could also be attributed to the nature of the programs in that less emphasis is given by agricultural mechanics programs for on-the-job training since more simulated training can be provided in the agricultural mechanics laboratory.

6. *Adapt your appearance and apparel to acceptable standards for teachers.* Horticulture instructors rated this competency less than did agricultural supply and service and mechanics instructors.

7. *Purchase appropriate equipment and materials.* Area school department heads rated this competency of less importance than the ratings given by instructors and program coordinators.

8. *Maintain necessary reports required by area school administrators, state agencies, and federal programs.* Horticulture instructors rated this competency lower than did instructors in the other program areas.

Participants' Ratings for Perceived In-Service Education Needs

Participants were asked to rate the 105 competencies as to how they perceived the importance of each competency to be included in a professional in-service education program for area school instructors of agriculture. The ratings were transformed to an 11-point rating scale for analyses as previously discussed in this report.

A total mean rating of 5.08 or above was observed for all of the 105 competencies. From this analysis it could be concluded that participants perceived each competency as being at least moderately important for inclusion in a professional education in-service education program. However, establishing a priority of their perceived needs may be helpful in designing in-service programs.

The competencies which received a total mean rating of 8.25 or above (upper quartile of rating scale) and listed by mean rank are as follows.

Instructional Activities - Planning

1. Develop a variety of audio-visual materials for instructional purposes.
2. Design and select student learning activities through which students can accomplish stated performance objectives.
3. Select appropriate instructional method(s) for learning situation.
4. Develop real laboratory experiences as an integral part of the instructional program.
5. Select appropriate audio-visual materials for instructional

purposes.

Instructional Activities - Execution

1. Employ a variety of individual and group motivational techniques.
2. Utilize a variety of instructional methods in program delivery.
3. Employ a variety of instructional resources in program delivery.
4. Utilize a student-centered teaching style.

Instructional Activities - Evaluation

1. Evaluate own techniques and methods of teaching for effectiveness according to standards of agricultural occupations and based on student needs.
2. Assist students in evaluating their own progress.

Program Planning

1. Develop and analyze agricultural program goals and objectives.
2. Determine and develop facilities essential to the program.

Coordination--on-the-Job

1. Evaluate objectively student performance on-the-job.

Professional Role

1. Interpret the legal responsibilities and liabilities of a teacher.

Guidance and Counseling

1. Identify students in need of counseling or guidance.
2. Provide special training or assistance to students who are

disadvantaged or handicapped.

Job Management

1. Develop and implement appropriate safety procedures.

In-Service Need Indicator of Professional Education Competencies

The in-service need indicator was obtained for each of the 105 competencies by adding the importance ratings by area school agricultural personnel to their perceived need for including the competency in an in-service education program. Calculating and analyzing the in-service need indicators should assist greatly in developing professional in-service education programs for Iowa area vocational school agriculture personnel.

All of the 105 competencies received a total mean in-service need indicator of 10.33 or above which would suggest that all competencies are perhaps at least moderately important and should be considered when designing in-service programs of professional in-service education. However, a closer scrutiny of competencies may be necessary. One criteria would be to select those competencies which received a total mean indicator score of 16.5 or above which would be the upper quartile of the need indicator scale.

Competencies within each competency group receiving a total mean need indicator score of 16.5 or above and listed by mean rank are as follows:

Instructional Activities - Planning

1. Select appropriate instructional method(s) for learning situation.

2. Develop real laboratory experiences as an integral part of the instructionl program.
3. Design and select student learning activities through which students can accomplish stated performance objectives.
4. Select appropriate audio-visual materials for instructional purposes.
5. Develop and write course outlines.
6. Develop a variety of audio-visual materials for instructional purposes.
7. Select appropriate textbooks and instructional resource(s) for learning situation.
8. Write measurable performance objectives for program and instructional units.
9. Develop simulated laboratory experiences as an integral part of the instructional program.

Instructional Activities - Execution

1. Employ a variety of individual and group motivational techniques.
2. Utilize a variety of instructional methods in program delivery.
3. Employ a variety of instructional resources in program delivery.
4. Maintain effective learning environment.
5. Utilize a student-centered teaching style.
6. Develop interest approaches for each instructional period.
7. Plan, organize and conduct field trips.
8. Function as a director of learning process.
9. Relate personal experiences and events to agricultural

occupational instruction.

Instructional Activities - Evaluation

1. Assist students in evaluating their own progress.
2. Evaluate own techniques and methods of teaching for effectiveness according to standards of agricultural occupations and based on student needs.
3. Develop tests and criteria for measuring student performance and progress.
4. Evaluate field trips and laboratory activities.
5. Evaluate the overall effectiveness of program in terms of program objectives.

Program Planning

1. Determine and develop facilities essential to the program.
2. Develop and analyze agricultural program goals and objectives.
3. Select, utilize and maintain agricultural program advisory committee.
4. Assist administrators in developing and maintaining agricultural program.

Coordination--on-the-Job

1. Evaluate objectively student performance on-the-job.
2. Maintain liaison with agriculture employment agencies and potential employers.
3. Evaluate on-the-job experience programs and experience centers.
4. Supervise students while placed on-the-job.

5. Plan and coordinate on-the-job experience programs.

Area School - Community Relations

1. Work cooperatively with individuals, business and industry in the community.
2. Articulate agricultural program with other agricultural education institutions or programs, such as, vocational agriculture, cooperative extension, and university.
3. Develop good working relationships with area school personnel and staff.
4. Communicate ideas and concepts to other instructors, area school personnel, and community members.

Student Activities

1. Develop and maintain rapport with students.
2. Recruit and interview students for agricultural programs.
3. Develop and guide special study topics for students.

Professional Role

1. Interpret the legal responsibilities and liabilities of a teacher.
2. Interpret the goals and objectives of agricultural education.
3. Plan a personal program of continuing professional education.

Guidance and Counseling

1. Identify students in need of counseling or guidance.
2. Inform students of the nature and requirements of specific agricultural occupations.
3. Recognize, interpret and utilize student actions and behaviors.

4. Relate to students from different socio-economic backgrounds.
5. Provide special training or assistance to students who are disadvantaged or handicapped.
6. Identify students with special needs and counsel with them in utilizing the learning resource center.
7. Use counseling techniques to help students solve personal, social, educational problems.
8. Assist students in securing permanent employment.
9. Assist students in entering programs of advanced occupational training or education.

Job Management

1. Develop and implement appropriate safety procedures.
2. Select and follow procedures in obtaining appropriate reference materials for students and staff.
3. Develop and communicate rules, procedures and acceptable standards of student behavior.
4. Develop a system for filing and records management.
5. Maintain safe, orderly, clean program facilities and equipment.
6. Develop and maintain a positive working relationship with the administration.
7. Interpret and adhere to area school policy.
8. Purchase appropriate equipment and materials.

Comparisons were made among participants' need indicator scores when grouped by their staff title and by their agricultural program area assigned. Significant differences were observed for the following competencies:

1. Develop individualized delivery system for students. Area school department heads indicated a higher in-service need indicator score than did area school instructors. This may be interpreted to mean that department heads believe instructors have a greater instructor in-service need for this competency than the need perceived by instructors.
2. Supervise students while placed on-the-job. Area school department heads and program coordinators indicated a higher instructor in-service need indicator than did the area school instructors.
3. Develop on-the-job training plans for students. Area school department heads indicated a higher instructor in-service need indicator than did area school instructors.
4. Cooperate and work with adult education division. Area school department heads indicated a higher instructor in-service need indicator than did area school instructors.
5. Maintain safe, orderly, clean program facilities and equipment. Area school department heads indicated a higher instructor in-service need indicator than did area school instructors.
6. Evaluate on-the-job experience programs and experience centers. A higher mean in-service need indicator was calculated for agricultural supply and service instructors than for agricultural production and agricultural mechanics instructors.
7. Obtain information and materials for update and news releases. A greater mean in-service need indicator was observed for

agricultural production, supply and service, and mechanics instructors than for horticulture instructors.

8. Participate in local staff organizations and activities. Agricultural supply and service and mechanics instructors received a higher mean in-service need indicator than did horticulture instructors.

9. Participate in professional organizations related to educational and technical agriculture areas. A greater mean in-service need indicator was observed for agricultural supply and service instructors than for agricultural production and horticulture instructors.

10. Interpret the history of vocational, occupational and career education. Agricultural mechanics instructors received a higher mean in-service need indicator than did agricultural production and horticulture instructors. Agricultural supply and service instructors received a higher mean need indicator than horticulture instructors.

11. Maintain necessary reports required by area school administrators, state agencies, and federal programs. Significantly greater mean in-service need indicator scores were calculated for agricultural supply and service, and mechanics instructors than for horticulture instructors. Scores for supply and service instructors were also significantly greater than scores for production instructors.

Methods for Delivering Professional In-Service Education

Part IV of the survey listed the ten professional education competency groups identified for this study. In columns to the right of these were six alternative methods for delivery of professional in-service education programs to area school instructors of agriculture. Participants were requested to rank the delivery methods from 1 to 6 for each competency. These ranks were then transformed to a 6-point rating scale for purposes of analyzing the data (i.e., rank of 1=rating score of 6; rank of 2=rating score of 5, etc.).

The competency groups and ranked methods of in-service delivery for each competency group are as follows:

Instructional Activities - Planning

1. Area school in-service workshop.
2. Iowa State University agriculture education in-service workshop.
3. Professional graduate course(s) in agricultural education at Iowa State University.
4. Supervised independent study.
5. Professional graduate course(s) in education.
6. Self-improvement.

Instructional Activities - Execution

1. Area school in-service workshop.
2. Iowa State University agricultural education in-service workshop.
3. Professional graduate course(s) in agricultural education at Iowa State University.

4. Self-improvement.
5. Supervised independent study.
6. Professional graduate course(s) in education.

Instructional Activities - Evaluation

1. Area school in-service workshop.
2. Iowa State University agricultural education in-service workshop.
3. Professional graduate course(s) in agricultural education at Iowa State University.
4. Supervised independent study.
5. Self-improvement.
6. Professional graduate course(s) in education.

Program Planning

1. Area school in-service workshop.
2. Iowa State University agricultural education in-service workshop.
3. Professional graduate course(s) in agricultural education at Iowa State University.
4. Supervised independent study.
5. Self-improvement.
6. Professional graduate course(s) in education.

Coordination--on-the-Job

1. Area school in-service workshop.
2. Self-improvement.
3. Iowa State University agricultural education in-service workshop.
4. Supervised independent study.

5. Professional graduate course(s) in agricultural education at Iowa State University.
6. Professional graduate course(s) in education.

Area School - Community Relations

1. Area school in-service workshop.
2. Self-improvement.
3. Iowa State University agricultural education in-service workshop.
4. Supervised independent study.
5. Professional graduate course(s) in agricultural education at Iowa State University.
6. Professional graduate course(s) in education.

Student Activities

1. Area school in-service workshop.
2. Self-improvement.
3. Iowa State University agricultural education in-service workshop.
4. Supervised independent study.
5. Professional graduate course(s) in agricultural education at Iowa State University.
6. Professional graduate course(s) in education.

Professional Role

1. Area school in-service workshop.
2. Self-improvement.
3. Iowa State University agricultural education in-service workshop.
4. Professional graduate course(s) in agricultural education at

Iowa State University.

5. Supervised independent study.
6. Professional graduate course(s) in education.

Guidance and Counseling

1. Area school in-service workshop.
2. Professional graduate course(s) in education.
3. Professional graduate course(s) in agricultural education at Iowa State University.
4. Iowa State University agricultural education in-service workshop.
5. Supervised independent study.
6. Self-improvement.

Job Management

1. Iowa State University agricultural education in-service workshop.
2. Professional graduate course(s) in agricultural education at Iowa State University.
3. Self-improvement.
4. Supervised independent study.
5. Professional graduate course(s) in education.
6. Area school in-service workshop.

The most preferred method of delivering professional in-service education programs was to provide area school in-service workshops. The second most preferred method was to provide professional education in-service training by conducting agricultural education in-service workshops at Iowa State University. The third most effective method as perceived by these participants was to receive professional in-service training by enrolling in professional graduate courses in agricultural education at Iowa State University. The least preferred method was through professional graduate courses in education.

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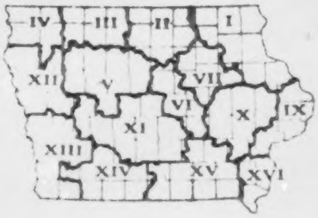
APPENDIX A

SURVEY INSTRUMENT



Iowa
a place to grow

SURVEY OF PROFESSIONAL EDUCATION AREA SCHOOL INSTRUCTOR QUALIFICATION AND
IN-SERVICE NEEDS IN AGRICULTURE

Informed Consent of Participants

I voluntarily agree to participate in this survey on Area School instructor qualification and in-service needs being conducted by Thomas Lindahl, Area One Vocational-Technical School Department Head, in cooperation with the Agricultural Education Department of Iowa State University.

I understand that the purpose of this research is to further develop and improve agricultural education in Area Schools. I further understand that the information which I provide will be held in confidence, and that my responses will be combined with other responses and reported only in group summary form.

Date ____________________ Signature of Participant ____________________

PART I
(Present Characteristics)

Directions: Please answer each question. Where a line is provided, write your response. Where there are brackets ( ), mark an "x" by the response which best describes your present characteristics.

1. What is the name of your Area School? ____________________

2. What is your title on your staff?
   a. ( ) Instructor
   b. ( ) Instructor - Program Coordinator
   c. ( ) Department Head or Chairman
   d. ( ) Other (Specify) ____________________

3. To which agricultural program are you assigned major responsibility? (Over 50% during the entire year)
   a. ( ) Agricultural Production
   b. ( ) Agricultural Supply and Service
   c. ( ) Agricultural Power and Machinery Mechanics
   d. ( ) Horticulture
   e. ( ) Other (Specify) ____________________

4. What is your age? __________

5. How many years have you taught in your current position? __________

6. Is this your first position in Iowa Area Schools? Yes No (circle)

7. What is your highest educational degree?
   a. ( ) High School diploma or certificate
   b. ( ) Associate degree
   c. ( ) Bachelor's degree
   d. ( ) Master's degree
   e. ( ) Ph.D. degree

8. What is the present Iowa Teaching Certificate which you hold?
   a. ( ) temporary
   b. ( ) pre professional
   c. ( ) professional
   d. ( ) permanent professional

PART II
(Initial Employment Characteristics)

Directions: Please answer each question. In the left hand column answer the question based on the characteristic you possessed at the time of your first employment in your area school agriculture program. In the right hand column answer the question as you perceive the minimum qualification for someone being employed as a full-time instructor in your agricultural program area as a beginning staff instructor. Where a line is provided, write your response. (Where there are brackets ( ), mark an "x" by the best response.)

	My Initial Background	Background Needed Today
9. Educational background at initial employment		
a. High School diploma or certificate	( )	( )
b. Associate degree	( )	( )
c. Bachelor's degree	( )	( )
d. Master's degree	( )	( )
e. Ph.D. degree	( )	( )
10. Most recent full time employment prior to initial area school employment in your program		
a. Business or industry non-teaching related to present post secondary position	( )	( )
b. Business or industry non-teaching non-related to present post secondary position	( )	( )
c. College Instructor	( )	( )
d. Graduate student (no teaching) related to present post secondary position	( )	( )
e. Graduate student (no teaching) non-related to present post secondary position	( )	( )
f. Secondary school teaching related to present post secondary position	( )	( )
g. Area school teaching related to present post secondary position	( )	( )
h. Extension education	( )	( )
11. Full certification to teach agriculture in Iowa area schools	Yes ( ) No ( )	Yes ( ) No ( )
12. Years teaching experience in vocational agriculture at secondary level	_____	_____
13. Years teaching experience in post secondary program	_____	_____
14. Total years teaching experience	_____	_____
15. Post high school years employment in business or industry related to your post secondary teaching position	_____	_____
16. Post high school years employment in business or industry not related to your post secondary teaching position	_____	_____
17. Level of business or industry experience related to your post secondary teaching experience (you may check more than one).		
a. Laborer	( )	( )
b. Technical similar to your teaching objectives	( )	( )
c. Mid management	( )	( )
d. Sales	( )	( )
e. Management	( )	( )
f. Ownership	( )	( )
18. Emphasis of formal education Check one-Quarter Hours ( ) Semester Hours ( )		
a. Hours in technical agriculture related to specialization of teaching		
(1) 0 - 10	( )	( )
(2) 11 - 20	( )	( )
(3) 21 - 30	( )	( )
(4) Over 30	( )	( )
b. Hours in nonagricultural professional education (general education)		
(1) 0 - 10	( )	( )
(2) 11 - 20	( )	( )
(3) 21 - 30	( )	( )
(4) Over 30		
c. Hours in agricultural professional education (agricultural education)		
(1) 0 - 10	( )	( )
(2) 11 - 20	( )	( )
(3) 21 - 30	( )	( )
(4) Over 30	( )	( )
19. Amount of supervised teaching experience		
a. None	( )	( )
b. 1 - 6 weeks	( )	( )
c. 7 - 12 weeks	( )	( )
d. Over 12 weeks	( )	( )

PART III
(Professional Competencies)

Directions: Please respond to each of the following professional competency items in terms of its importance to be qualified to be employed and perform as an area school agriculture instructor, and to its importance to be included in professional in-service education.

After you have read each competency statement, please circle the "A" (agree) if you agree that the competency statement is an important qualification or the "D" (disagree) if you feel the competency is not an important qualification in the Instructor Qualification column. If you are completely uncertain, circle both A and D. Once you have made this decision, please indicate by writing a number in the blank provided that indicates the degree of certainty you feel about your choice using the following rating scale.

1 - not very certain (strong reservations)
2 - slightly certain
3 - moderately certain
4 - certain
5 - very certain (no reservations)

Now complete the In-Service Education column by circling the "A" (agree) if you agree the competency statement is important and should be included in in-service education or the "D" (disagree) if you feel that the competency statement is not important and should not be included in in-service education. Once you have made this decision, please indicate by writing a number in the blank that indicates the degree of certainty you feel about your choice using the rating scale above.

Example statement:

Instructor Qualification	Competency	In-Service Education
A [✓ D] 2	Select students for on-the-job experience.	[✓ A] D 3

You will respond to competencies in ten professional competency groups. Following each group you will be asked to rank, from first through fifth in priority, the competencies which you feel are definitely important to be a qualified instructor and employed in your agricultural program. A number one (1) ranking would indicate the most important qualification.

Example of professional competency group ranking:

Most important instructor qualification by competency number.

46	40	44	48	42
1st	2nd	3rd	4th	5th

A. INSTRUCTIONAL ACTIVITIES - PLANNING

Instructor Qualification:				Competency	In-Service Education		
A	D	___	1.	Select appropriate instructional method(s) for learning situation.	A	D	___
A	D	___	2.	Select appropriate textbooks and instructional resource(s) for learning situation.	A	D	___
A	D	___	3.	Develop a variety of audio-visual materials for instructional purposes.	A	D	___
A	D	___	4.	Develop and implement individualized instructional materials.	A	D	___
A	D	___	5.	Select appropriate audio-visual materials for instructional purposes.	A	D	___
A	D	___	6.	Develop individualized delivery system for students.	A	D	___
A	D	___	7.	Write measurable performance objectives for program and instructional units.	A	D	___
A	D	___	8.	Develop simulated laboratory experiences as an integral part of the instructional program.	A	D	___

Instructor Qualification:	Competency	In-Service Education
A D ______	9. Organize and break down agricultural occupation(s) into component parts for instructional and guidance purposes.	A D ______
A D ______	10. Develop real laboratory experiences as an integral part of the instructional program.	A D ______
A D ______	11. Design and select student learning activities through which students can accomplish stated performance objectives.	A D ______
A D ______	12. Build models and displays for instructional purposes.	A D ______
A D ______	13. Plan, provide and schedule the utilization of facilities and equipment for maximum student benefit.	A D ______
A D ______	14. Develop and write course outlines.	A D ______
A D ______	15. Reproduce instructional materials with a variety of duplicating equipment.	A D ______

Most important instructor qualification by competency number.

____ 1st ____ 2nd ____ 3rd ____ 4th ____ 5th

B. INSTRUCTIONAL ACTIVITIES - EXECUTION

A D ______	16. Utilize a variety of instructional methods in program delivery.	A D ______
A D ______	17. Employ a variety of instructional resources in program delivery.	A D ______
A D ______	18. Employ a variety of individual and group motivational techniques.	A D ______
A D ______	19. Write a daily instructional plan.	A D ______
A D ______	20. Utilize a student-centered teaching style.	A D ______
A D ______	21. Plan, organize and conduct field trips.	A D ______
A D ______	22. Maintain effective learning environment.	A D ______
A D ______	23. Relate personal experiences and current events to agricultural occupational instruction.	A D ______
A D ______	24. Function as a director of learning processes.	A D ______
A D ______	25. Develop interest approaches for each instructional period.	A D ______
A D ______	26. Summarize daily and unit instruction.	A D ______
A D ______	27. Develop and utilize the learning resource center in instructional activities.	A D ______

Most important instructor qualification by competency number.

____ 1st ____ 2nd ____ 3rd ____ 4th ____ 5th

C. INSTRUCTIONAL ACTIVITIES - EVALUATION

A D ______	28. Maintain student performance or progress reports and competency records.	A D ______
A D ______	29. Develop tests and criteria for measuring student performance and progress.	A D ______
A D ______	30. Evaluate own techniques and methods of teaching for effectiveness according to standards of agricultural occupations and based on student needs.	A D ______

Instructor Qualification:				Competency	In-Service Education		
A	D	______	31.	Evaluate performance of other instructional staff.	A	D	______
A	D	______	32.	Evaluate the overall effectiveness of program in terms of program objectives.	A	D	______
A	D	______	33.	Evaluate field trips and laboratory activities.	A	D	______
A	D	______	34.	Formulate a system of grading consistent with the department and area school policy.	A	D	______
A	D	______	35.	Assist students in evaluating their own progress.	A	D	______

Most important instructor qualification by competency number.

____ 1st ____ 2nd ____ 3rd ____ 4th ____ 5th

D. PROGRAM PLANNING

A	D	______	36.	Assist administrators in developing and maintaining agricultural program.	A	D	______
A	D	______	37.	Promote and conduct adult or technical in-service agricultural programs.	A	D	______
A	D	______	38.	Utilize local and statewide policy in securing reimbursement for occupational programs.	A	D	______
A	D	______	39.	Select, utilize and maintain agricultural program advisory committee.	A	D	______
A	D	______	40.	Utilize local and statewide guidelines and needs assessments for program planning.	A	D	______
A	D	______	41.	Conduct and interpret a task (competency) or activity analysis of agricultural occupations.	A	D	______
A	D	______	42.	Conduct community surveys to improve instruction or plan programs.	A	D	______
A	D	______	43.	Develop and analyze agricultural program goals and objectives.	A	D	______
A	D	______	44.	Interpret the socio-economic and power structure of the community.	A	D	______
A	D	______	45.	Determine and develop facilities essential to the program.	A	D	______

Most important instructor qualification by competency number.

____ 1st ____ 2nd ____ 3rd ____ 4th ____ 5th

E. COORDINATION - ON-THE-JOB

A	D	______	46.	Secure on-the-job training stations for students.	A	D	______
A	D	______	47.	Develop on-the-job training plans for students.	A	D	______
A	D	______	48.	Supervise students while placed on-the-job.	A	D	______
A	D	______	49.	Plan and coordinate on-the-job experience programs.	A	D	______
A	D	______	50.	Evaluate on-the-job experience programs and experience centers.	A	D	______
A	D	______	51.	Maintain liaison with agriculture employment agencies and potential employers.	A	D	______
A	D	______	52.	Evaluate objectively student performance on-the-job.	A	D	______

Instructor Qualification:			Competency	In-Service Education		
A	D	____	53. Conduct a training station development program.	A	D	____
A	D	____	54. Select on-the-job training centers.	A	D	____

Most important instructor qualification by competency number.

____ 1st ____ 2nd ____ 3rd ____ 4th ____ 5th

F. AREA SCHOOL - COMMUNITY RELATIONS

A	D	____	55. Assist in the development of the total area school program.	A	D	____
A	D	____	56. Communicate ideas and concepts to other instructors, area school personnel, and community members.	A	D	____
A	D	____	57. Work cooperatively with individuals, business and industry in the community.	A	D	____
A	D	____	58. Articulate agricultural program with other agricultural education institutions or programs, such as, vocational agriculture, cooperative extension, and university.	A	D	____
A	D	____	59. Obtain information and materials for update and news releases.	A	D	____
A	D	____	60. Participate in community organizations and activities.	A	D	____
A	D	____	61. Develop good working relationships with area school personnel and staff.	A	D	____
A	D	____	62. Understand and interpret the community problems and culture.	A	D	____
A	D	____	63. Participate in local staff organizations and activities.	A	D	____
A	D	____	64. Cooperate and work with instructors in transfer education.	A	D	____
A	D	____	65. Work with faculty members on area school committees.	A	D	____
A	D	____	66. Cooperate and work with adult education division.	A	D	____

Most important instructor qualification by competency number.

____ 1st ____ 2nd ____ 3rd ____ 4th ____ 5th

G. STUDENT ACTIVITIES

A	D	____	67. Promote, sponsor, and advise student program or department organizations and activities.	A	D	____
A	D	____	68. Recruit and interview students for agricultural programs.	A	D	____
A	D	____	69. Conduct preassessment of students interests, abilities and aptitudes.	A	D	____
A	D	____	70. Complete and process student records and reports for student personnel services.	A	D	____
A	D	____	71. Develop and maintain rapport with students.	A	D	____
A	D	____	72. Develop and guide special study topics for students.	A	D	____

Most important instructor qualification by competency number.

____ 1st ____ 2nd ____ 3rd ____ 4th ____ 5th

Instructor Qualification				Competency	In-Service Education		
				H. PROFESSIONAL ROLE			
A	D		73.	Interpret the goals and objectives of agricultural education.	A	D	
A	D		74.	Interpret the philosophy and goals of the area school.	A	D	
A	D		75.	Interpret the legal responsibilities and liabilities of a teacher.	A	D	
A	D		76.	Use information contained in professional journals for personal development and improvement of instruction.	A	D	
A	D		77.	Participate in professional organizations related to educational and technical agriculture areas.	A	D	
A	D		78.	Adapt your appearance and apparel to acceptable standards for teachers.	A	D	
A	D		79.	Interpret the history of vocational, occupational and career education.	A	D	
A	D		80.	Plan a personal program of continuing professional education.	A	D	
A	D		81.	Recognize issues which divide educators.	A	D	

Most important instructor qualification by competency number.

1st 2nd 3rd 4th 5th

I. GUIDANCE AND COUNSELING

A	D		82.	Assist students in securing permanent employment.	A	D	
A	D		83.	Relate to students from different socio-economic backgrounds.	A	D	
A	D		84.	Provide special training or assistance to students who are disadvantaged or handicapped.	A	D	
A	D		85.	Identify students in need of counseling or guidance.	A	D	
A	D		86.	Use counseling techniques to help students solve personal, social, educational problems.	A	D	
A	D		87.	Assist students in entering programs of advanced occupational training or education.	A	D	
A	D		88.	Inform students of the nature and requirements of specific agricultural occupations.	A	D	
A	D		89.	Design, conduct, interpret, and use follow-up studies of program enrollees and graduates.	A	D	
A	D		90.	Counsel and advise parents.	A	D	
A	D		91.	Recognize, interpret and utilize student actions and behaviors.	A	D	
A	D		92.	Assist students in developing appropriate study practices.	A	D	
A	D		93.	Develop and maintain a relationship with and use student personnel services.	A	D	
A	D		94.	Identify students with special needs and counsel with them in utilizing the learning resource center.	A	D	

Most important instructor qualification by competency number.

1st 2nd 3rd 4th 5th

Instructor Qualification	Competency	In-Service Education
	J. JOB MANAGEMENT	
A D ______	95. Use formalized criteria in selection and obtaining equipment, materials, and supplies for instructional purposes.	A D ______
A D ______	96. Purchase appropriate equipment and materials.	A D ______
A D ______	97. Maintain safe, orderly, clean program facilities and equipment.	A D ______
A D ______	98. Develop and communicate rules, procedures and acceptable standards of student behavior.	A D ______
A D ______	99. Maintain necessary reports required by area school administrators, state agencies, and federal programs.	A D ______
A D ______	100. Interpret and adhere to area school policy.	A D ______
A D ______	101. Plan and prepare budgets for occupational program.	A D ______
A D ______	102. Develop and maintain a positive working relationship with the administration.	A D ______
A D ______	103. Develop a system for filing and records management.	A D ______
A D ______	104. Select and follow procedures in obtaining appropriate reference materials for students and staff.	A D ______
A D ______	105. Develop and implement appropriate safety procedures.	A D ______

Most important instructor qualification by competency number.

______ 1st ______ 2nd ______ 3rd ______ 4th ______ 5th

PART IV
(In-Service Delivery System)

Directions: Below are a list of ten professional competency areas. In columns to their right are six alternative methods for delivering professional in-service education. Rank the delivery systems for each competency area from one to six. (One represents the best method, six the least effective method.)

	Area School In-Service Workshop	ISU Agr. Education In-Service Workshop	Professional Graduate Course(s) in Agricultural Education-ISU	Professional Graduate Course(s) in Education	Supervised Independent Study	Self Improvement
1. Instructional Activities-Planning						
2. Instructional Activities-Execution						
3. Instructional Activities-Evaluation						
4. Program Planning						
5. Coordination-On-The-Job						
6. Area School-Community Relations						
7. Student Activities						
8. Professional Role						
9. Guidance and Counseling						
10. Job Management						

APPENDIX B

INTRODUCTORY INFORMATION AND DIRECTIONS FOR COMPLETION OF SURVEY

SURVEY OF PROFESSIONAL EDUCATION AREA SCHOOL INSTRUCTOR QUALIFICATION AND IN-SERVICE NEEDS IN AGRICULTURE

Guidelines and Introduction For Questionnaire Administration

Thank you for providing your valuable time and cooperating in completion of this survey instrument which measures beginning area school agriculture instructor qualification needs and your needs as area school agriculture instructors for in-service. The purpose of this study is:

1. To determine the professional needs of Iowa area school agriculture instructors to be a qualified beginning instructor today.
2. To determine the professional education needs for in-service of the present agricultural education staffs in Iowa area schools.

I decided to complete this study after having received the support and cooperation of the agriculture department heads in Iowa area schools. I thank them for their support. Will each of you please read and sign the informed consent statement on page one. (Pause)

There are four parts to this survey instrument. Part I asks for information about the present characteristics you possess as an area school agriculture instructor. Please write in the information or mark the statement which best describes your current situation. You may complete the questions when I have completed discussing all the directions.

Part II asks for information which best describes you when you were initially employed as an agriculture instructor in Iowa Area Schools, in the left column. In the right column, you are asked to indicate the minimum qualification for someone being employed as a full time beginning agriculture instructor in your program area today.

Part III asks you to respond to the importance of various professional competencies to be hired as a qualified beginning instructor in your program area in the left column. In the right column, you are asked to indicate the importance of that qualification for your in-service education needs. Please take time to read the instructions carefully. (Pause)

Please refer to the example statement. This response procedure requires that you first decide whether you agree or disagree that the competency is important for a beginning agriculture instructor and for your in-service education needs by circling the A or D. Then you must write a number of a scale from 1 (not very certain) to 5 (very certain) which indicates the certainty of your first response. Be sure to make complete responses for each competency statement.

After each professional competency area, you will be asked to tank the five most important competencies to a beginning agriculture instructor for minimum qualification from first to fifth in priority by writing the appropriate competency number in the space provided. As you read the competencies, remember you will be asked to complete this ranking procedure. This will help you to achieve greatest efficiency in completion of the questionnaire.

Part IV asks you to rank the alternative methods for delivering professional in-service education for each of the ten professional competency areas from one (best) to six (least) in effectiveness as a delivery method for in-service education.

Please be sure to check through your questionnaire to be sure all responses have been made before giving it to me.

Are there any questions? (Answer questions)

The answers which will be most helpful to this research project are the ones which best reflect your own experiences and feelings about each question or competency.

Thank you for your help. You may leave when you have completed the questionnaire and after I have checked it for completeness.